The Author

A BOTANICAL ARRANGEMENT OF BRITISH PLANTS;

INCLUDING

THE USES OF EACH SPECIES,

IN

MEDICINE, DIET, RURAL ŒCONOMY, AND THE ARTS.

WITH AN EASY

Introduction to the Study of Botany, &c. &c.

ILLUSTRATED BY COPPER PLATES.

THE SECOND EDITION.

By WILLIAM WITHERING, M.D. F.R.S.

INCLUDING

A NEW SET OF REFERENCES TO FIGURES,

PARTLY BY THE AUTHOR,

AND PARTLY BY JONATHAN STOKES, M. D.

VOL. III.

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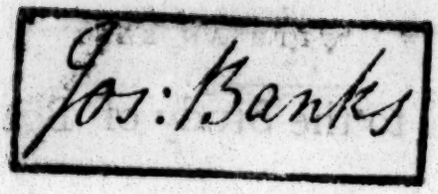
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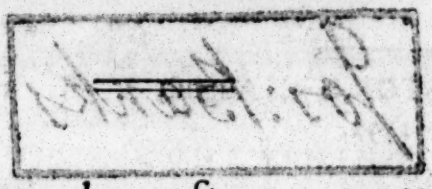
PREFACE

TO THE

THIRD VOLUME.



THE Author has often regretted, that the publication of this laſt part of the Botanical Arrangement, ſhould have been delayed ſo greatly beyond the time he had fixed for its appearance, and he takes this opportunity to thank the writers of ſeveral letters he has received on that account, for the attention they have beſtowed upon the work; for whether theſe letters were merely civil enquiries, or polite and encouraging addreſſes, or churliſh and chiding remonſtrances, he is ſenſible that the writers, whether avowed or anonymous, had only in view to urge him to finiſh the undertaking. This he has now done, and if not ſooner done, the delay was

not cauſed by want of encouragement or inclination, but by an unſettled ſtate of health, and a variety of other unforeſeen circumſtances which it would be uſeleſs now to mention. However, when the execution comes to be examined, he hopes the public will not decide that he has idly treſpaſſed upon its patience.

EDGBASTON, 27th Auguſt, 1792.

INTRO-

A

BOTANICAL ARRANGEMENT

OF

BRITISH PLANTS, &c.

VOL. III. PART I.

By WILLIAM WITHERING, M.D.F.R.S.

CONTAINING,

I. An Eaſy Introduction to the Study of Botany.
II. Directions for drying and preſerving Specimens of Plants.
III. Dictionary of Engliſh Botanical Terms.
IV. Latin Terms of LINNÆUS, accented and explained.
V. Explanation of the Plates.
VI. An Index to the Two Firſt Volumes; &c.

N. B. *The purchaſer is deſired not to bind this, but to wait for the ſecond part, which will compleat the work, and which will be publiſhed as ſoon as it can be got ready.——A full Title-page to the third volume will be given at the ſame time.*

PRICE THREE SHILLINGS AND SIXPENCE SEWED.

AN EASY INTRODUCTION TO The STUDY of BOTANY.

TAKING it for granted, that the Botanical Student will be at no loſs to diſtinguiſh a Vegetable, at firſt ſight, from an Animal, or a Foſſil, and that all Vegetables are capable of producing Flowers and Fruit,* we ſhall immediately enter upon a deſcription of the parts compoſing a Flower; for as the Linnæan Syſtem of Botany is chiefly founded upon the *number*, *ſhape*, and *ſituation* of theſe parts, an accurate knowledge and diſcrimination of them is neceſſary to the underſtanding the Elements of the Science.

* By *Fruit* is here meant *perfect Seeds*; whether accompanied or not, by an eatable part.

A FLOWER conſiſts of the
- EMPALEMENT, (or *Calyx.*)
- BLOSSOM, (or *Corolla.*)
- CHIVES, (or *Stamina.*)
- POINTALS, (or *Piſtilla.*)
- SEED-VESSEL, (or *Pericarpium.*)
- SEEDS, (or *Semina.*)

To theſe may be added, the HONEY-CUP, (or *Nectarium*;) and the RECEPTACLE, or *Receptaculum*.

Some Flowers poſſeſs all theſe different parts, whilſt others are deficient in ſome of them; but either CHIVES or POINTALS, or both, are to be found in every flower.

The EMPALEMENT is formed of one, or more, green or yellowiſh green leaves, placed at a ſmall diſtance from, or cloſe to, the bloſſom.

The different kinds of Empalement are (1) a CUP, or *Perianthium*; (2) a FENCE, or *Involucrum*; (3) a CATKIN, or *Amentum*; (4) a SHEATH, or *Spatha*; (5) a HUSK, or *Gluma*; (6) a VEIL, or *Calyptra*; (7) a RUFFLE, or *Volva*; but the moſt common is the CUP. For an explanation of theſe ſee the Dictionary of Terms; or look at a Roſe, and the green covering that incloſes and ſupports the bloſſom, is called the CUP. Pl. 3. fig. 1. *(a. a. a. a. a.)* The Cup of a Polyanthus is repreſented in pl. 3. fig. 10.

Linnæus ſays the Empalement is formed by the outer bark of the plant.

The

The BLOSSOM is that beautifully coloured part of a flower, which attracts the attention of every body. If it be in one piece, as in the Polyanthus, or Auricula, it is ſaid to be a bloſſom of *one Petal*; but, if it be compoſed of ſeveral parts, it is accordingly ſaid to be a bloſſom of *one*, *two*, *three*, &c. or many parts or *Petals*. Thus the Bloſſom of the Tulip is formed of *ſix* Petals; and the Garden Roſes bear Bloſſoms compoſed of *many* Petals. The Bloſſom is ſuppoſed to be an expanſion of the inner bark of the plant.

The CHIVES are ſlender thread-like ſubſtances, generally placed within the Bloſſom, and ſurrounding the Pointals. A Chive is compoſed of *two parts*, the *Thread* and the *Tip*, but the Tip is the eſſential part. Chives are formed of the woody ſubſtance of the plant.

The POINTALS are to be found in the centre of the flower: they are compoſed of *three* parts, the *Seed-bud*, the *Shaft*, and the *Summit*; but the Shaft is often wanting. Some flowers have only one Pointal; others have two, three, four, &c. and ſome have more than can be eaſily counted. Linnæus ſays the Pointals are formed of the Pith of the Plant.

The SEED-VESSEL. In the newly-opened flower, this part was called the *Seed bud*; but when it enlarges and approaches to maturity, it is called the Seed-veſſel. Some flowers have no ſeed-veſſels: in which caſe, the Empalement generally incloſes and retains the Seeds until they ripen.

SEEDS, are ſufficiently well known; the ſubſtance to which they are fixed within the ſeed-veſſel is called the *Receptacle of the Seeds.*

HONEY-CUPS are thoſe parts of a Flower which are found to contain honey. The tube of the Bloſſom ſerves the purpoſe of a Honey-cup in many Flowers, as in the Honey-ſuckle: but in other flowers there is a peculiar organization deſtined to this purpoſe. See pl. 5. fig. 1, 2, 3, 4.

The RECEPTACLE is that part, to which the above-mentioned parts of a Flower are fixed. Thus, if you take a Flower and pull off the Empalement, the Bloſſom, the Chives, the Pointals, and the Seeds or Seed-veſſels, the remaining part at the top of the Stalk is the Receptacle. In many Flowers the Receptacle is not a very ſtriking part, but in others it is very large and remarkable: thus in the Artichoke, after we have taken away the leaves of the Empalement, the Bloſſoms, and the briſtly ſubſtances; the part remaining, and ſo much eſteemed as food, is the Receptacle.

Having thus briefly mentioned the different parts which enter into the compoſition of Flowers, let us for the ſake of illuſtration examine ſome well-known inſtance. Suppoſe it to be a flower of the CROWN IMPERIAL.

CROWN IMPERIAL.

EMPALEMENT. None.

BLOSSOM. - - Six Petals. (Pl. 3. fig. 2. *a. a. a. a. a. a.*)

CHIVES. - - Six. (Pl. 3. fig. 2. *bc. bc. bc. bc. bc. bc.*)
Threads ſix; ſhaped like an awl. (Pl. 3. fig. 2. *b. b. b. b. b. b.*)
Tips oblong; four-cornered. (Pl. 3. fig. 2. *c. c. c. c. c. c.*)

POINTAL. - - Single.
Seed-bud oblong; three-cornered. (Pl. 3. fig. 2. *d.*)
Shaft longer than the Chives. (Pl. 3. fig. 2. *e.*)
Summit with three diviſions. (Pl. 3. fig. 2. *f.*)

SEED-VESSEL. An oblong capſule, with three cells and three valves. (Pl. 3. fig. 4.) repreſents the Seed-veſſel cut a-croſs to ſhew the three cells in which the Seeds are contained.

SEEDS. - - - Numerous; flat.

By conſidering this deſcription with ſome attention, and comparing it with the Flower itſelf, and likewiſe with the engraved figures, we ſhall ſoon attain a pretty good idea of the different parts of a Flower. If a Crown Imperial is not at hand, a Tulip or a Lily will correſpond pretty well with the above deſcription. But if we examine the Crown Imperial we ſhall find at the baſe of each Petal, a hole, which is the Honey-cup. In pl. 3. fig. 3. is

a repreſentation of one of the Petals ſeparated from the reſt, to ſhew the Honey-cup at (*k*,) and one of the Chives (*h. i.*)

It is natural to aſk the uſes of theſe different parts—A full reply to ſuch a queſtion would lead us to a long diſquiſition, curious in itſelf, but quite improper in this place. Let it therefore ſuffice to obſerve, that the production of perfect Seed is the obvious uſe of the flower; that for this purpoſe the Seed-bud, the Summit, and the Tips are all that are eſſentially neceſſary; and perhaps the ſummit might be diſpenſed with. The fine duſt, or meal, *(farina)* that is contained in the Tips, is thrown upon the Summit of the Pointal: This ſummit is moiſt, and the moiſture acting upon the particles of the duſt, occaſions them to explode and diſcharge a very ſubtile vapour. This vapour paſſing through the minute tubes of the Pointal, arrives at the Embryo Seeds in the Seed-bud, and fertilizes them. The ſeeds of many plants have been obſerved to become, to all appearance, perfect without this communication; but theſe Seeds are incapable of vegetation. In pl. 3. fig. 5. at *f.* one of the Tips is repreſented diſcharging its duſt; and at fig. 8. you ſee a particle of duſt greatly magnified and throwing out its vapour. The Empalement and the Petals ſeem primarily deſigned as covers, to protect the more eſſential parts; and perhaps it is not too vain an imagination to believe, that a diſplay of beauty was in ſome meaſure the deſign of the Creator.

Independent

Independent however of these uses designed by Nature, the Botanist takes advantage of the different number, figure, size, and situation of these parts, and assumes them as the foundation of a systematic arrangement. He divides all the vegetable productions upon the surface of the globe, into Classes, Orders, Genera, Species and Varieties. The Classes are composed of Orders; the Orders are composed of Genera; the Genera of Species; and the Species of Varieties.

We are accustomed to consider the productions of Nature as forming three distinct parts, called the Animal, the Vegetable, and the Fossil or Mineral KINGDOM.

Therefore taking the matter up in this familiar language, let us endeavour to attain an idea of Classes, Orders, &c. by continuing the allusion. Let us compare

The VEGETABLE KINGDOM to the KINGDOM of ENGLAND;
- - - CLASSES - - - - - - to the COUNTIES;
- - - ORDERS - - - - - - to the HUNDREDS;
- - - GENERA - - - - - - to the PARISHES;
- - - SPECIES - - - - - - to the VILLAGES;
- - - VARIETIES - - - - - to the HOUSES.

Some authors have aptly enough compared

A CLASS - - - to an ARMY;
An ORDER - - to a REGIMENT;
A GENUS - - to a COMPANY;
And a SPECIES to a SOLDIER.

But

But no compariſon can be more in point, than that which conſiders the vegetables upon the face of the globe, as analagous to the inhabitants; thus —

VEGETABLES reſemble the INHABITANTS in general;
CLASSES - - reſemble the NATIONS;
ORDERS - - reſemble the TRIBES;
GENERA - - reſemble the FAMILIES;
SPECIES - - reſemble the INDIVIDUALS;
And VARIETIES are the ſame *Individuals* in different circumſtances.

All the vegetables in Great-Britain are diviſible, according to the Syſtem of Linnæus, into twenty-four Claſſes.

The characters of the CLASSES are taken either from the *number*, the *length*, the *connexion*, or the *ſituation* of the Chives.

The characters of the ORDERS are moſt frequently taken from the *number* of the POINTALS; but ſometimes from ſome other circumſtances either of the Chives or Pointals, which will be noticed hereafter.

The characters or marks of the GENERA are taken from ſome particulars in the flower, before unnoticed; but generic deſcriptions are deſigned to contain an account of *all* the moſt obvious appearances in the flowers.

The

The SPECIES are moſtly characterized from peculiarities in the STEM or LEAVES; ſometimes from parts of the FLOWER; rarely from the ROOTS.

Varieties. Both leaves and flowers are ſubject to variations; ſome of them evidently dependant upon ſoil and ſituation: but others owing to cauſes which are hitherto unaſcertained. Thus the leaves of the Ranun'culus aquat'ilis, or Water Crowfoot, growing beneath the ſurface of the water, are much more divided than thoſe which grow above the ſurface: ſo that a perſon unacquainted with this circumſtance, would hardly believe they belong to the ſame plant. Again; the leaves of the Polyg'onum amphib'ium, or amphibious Snakeweed, in wet ſituations, are ſmooth; but, in dry and warm ſituations, rough. Some authors therefore have reckoned them as diſtinct ſpecies; but, let them change ſituations, and the appearances will be changed likewiſe. But why the leaves of Mint are ſometimes curled, thoſe of Holly or Mezereon variegated with white, &c. is a more difficult matter to determine; ſeeing that ſlips from theſe plants, tho' tranſplanted into different ſoils, do not loſe their peculiarities: but young ones raiſed from ſeeds return to their original form. It is evident therefore that theſe, however different in appearance, are not to be conſidered as diſtinct ſpecies, but only as varieties.

No variations are more common than thoſe of colour; but deſirable as theſe changes are to the Floriſt, they have little weight with the Botaniſt, who

who conſiders them as variable accidental circumſtances, and therefore by no means admiſſible in the diſcrimination of ſpecies.

Many flowers, under the influence of garden culture, become double; but double flowers are monſters, and therefore can only rank in a ſyſtem of Botany, as varieties. When we conſider, that every plant is compoſed of an outer bark, an inner bark, a wood, and a heart or pith; and that flowers are formed by an expanſion of theſe parts; when we recollect too that the Chives are formed of the woody ſubſtance, and are told, that this woody ſubſtance was originally formed by many coats of the inner bark condenſed; we ſhall not be at a loſs to account for the production of double flowers. The woody ſubſtance inſtead of being formed into Chives is expanded into Petals. This ſeems to be effected by too much ſucculent nouriſhment, which prevents the wood being properly conſolidated. Hence it is that the flowers with many Chives are more apt to become double, and to a greater degree, than thoſe which have few; as appears in the Anemone, the Ranunculus, the Poppy and the Roſe. Where the Petals are ſo much multiplied as to exclude all the Chives, the flowers neceſſarily become barren.

TABLE OF THE CLASSES.

(To face page xv.)

Class.		Plate I. (fig.)	Examples.
I.	One Chive. — — — — — — — — — —	1 (a.) — — —	Mares Tail.
II.	Two Chives. — — — — — — — — — —	2 — — — —	Privet. Sage.
III.	Three Chives. — — — — — — — — — —	3 (a. a. a.) — —	Flag. Saffron. The Graſſes.
IV.	Four Chives. — — (All of the ſame length.) — — —	4 — — — —	Plantain. Teaſel. Scabious.
V.	Five Chives. — — (Tips not united.) — — — —	5 — — — —	Honeyſuckle. Primroſe. Borage.
VI.	Six Chives. — — (All of the ſame length.) — — —	6 — — — —	Sparagus. Daffodil. Snowdrop.
VII.	Seven Chives. — — — — — — — — — —	7 — — — —	*Horſe Cheſnut.*
VIII.	Eight Chives. — — — — — — — — — —	8 — — — —	Mezereon. Heath. Willowherb.
IX.	Nine Chives. — — — — — — — — — —	9 — — — —	Gladiole. *Bay-tree.*
X.	Ten Chives. — — (Threads not united.) — — — —	10 — — — —	Campion. Arbutus. Pink. Sedum.
XI.	Twelve Chives. — — (Chives fixed to the Receptacle.) — —	11 — — — —	Houſeleek.
XII.	Twenty Chives. — — (Chives fixed to the Cup or to the Petals.)	12 — — — —	Hawthorn. Plumb. Pear. Roſe.
XIII.	Many Chives. — — (More than 12; fixed to the Receptacle.)	13 — — — —	Poppy. Larkſpur. Ranunculus.
XIV.	Two Chives longer. — (And two ſhorter.) — — — —	14 (a. a.) (c. c. c.) —	Fox-glove. Toad-flax. Gill.
XV.	Four Chives longer. — (And two ſhorter.) — — — —	15 (a. a. a. a.) (b. b.) -	Wall-flower. Cabbage. Ladieſmock.
XVI.	Threads united. — — (At the bottom, but ſeparate at the top.) -	16 (c. c. c.) — —	Geranium. Mallow.
XVII.	Threads in two ſets. — (Sometimes in one. Bloſſ. butterfly-ſhaped.)	17 (a. b.) — —	Pea. Gorze. Broom.
XVIII.	Threads in many ſets. - (Three or more ſets.) — — —	18 — — — —	*Orange.* St. John's-wort.
XIX.	Tips united. — — (Five Chives.) — — — — —	19 (a. a.) (b. b.) —	Violet. Dandelion. *Sunflower.* Thiſtle. Coltsfoot.
XX.	Chives on the Pointal. - — — — — — — — —	20 (a. a. a.) — —	Orchis. *Paſſionflower.*
XXI.	Chives and Pointals ſep. (In ſeparate Flowers.) — — —	21 (a.) — — —	Oak. Nettle. Box.
XXII.	Chives and Pointals diſt. (Upon diſtinct Plants.) — — —	22 (a.) — — —	Hop. Miſletoe. Yew. Willow.
XXIII.	Various Diſpoſitions. — (Chives alone, Pointals alone, or Chives and Pointals together.)	23 (a. b. c.) — —	Aſh. Orache. Maple.
XXIV.	Flowers inconſpicuous - — — — — — — — —	A. B. C. D. E. F. G. H.	Ferns. Moſſes. Liverwort. Muſhroom.

N. B. The names of the Examples which are printed in Italics are not Engliſh Species, therefore not to be met with in this work, but they are inſerted for the ſake of illuſtration, and may be found in gardens.

Of CLASSES.

By looking over the annexed Table of the Claſſes, by referring to plate I. and ſometimes by having recourſe to the plants mentioned as examples, the learner will ſoon commit the characters of the Claſſes to memory, ſo that upon the firſt ſight of a flower, it will be no difficult matter for him to refer it to its proper Claſs.

Of ORDERS.

A knowledge of the Orders will very readily be attained, by obſerving, that

In the 14th Claſs they depend upon the Seeds having a Seed-veſſel or not.
---- 15th upon the ſhape of the Seed-veſſel.
---- 19th upon the ſtructure of the Florets. (*See the introduction to the* 19*th Claſs at page* 818.)
---- 20th upon the number of Chives.
---- 21ſt and 22d upon the number and ſituation of the Chives, or the union of the Tips.
---- 23d upon the ſituation of the Chives and Pointals.
---- 24th upon the natural aſſemblages of plants reſembling one another.

And that in all the other Claſſes, not particularly ſpecified, the Orders depend upon the *Number* of the Pointals only.

Of GENERA.

Before we can underſtand the Characters of a Genus, we muſt again conſider the different parts that enter into the ſtructure of flowers, and learn how

how theſe different parts may be modified. As for inſtance,

The EMPALEMENT may be either a

- CUP, *(Perianthium)* fixed near to the flower; as in the Roſe, the Cowſlip, or the Foxglove.
- FENCE, *(Involucrum)* remote from the flower; generally belonging to the Rundle-bearing, or Umbelliferous plants; as Hemlock, or Carrot. When it ſurrounds the baſe of the rundle it is called the *general* fence, *(Involucrum;)* but, when it ſurrounds the baſe of a rundlet, or little rundle, it is called the *partial* fence, *(Involucellum.)*
- CATKIN, *(Amentum)* as in Willow, or Haſel.
- SHEATH, *(Spatha)* as in Snowdrop, or Daffodil.
- HUSK, *(Gluma)* as in Wheat, Oats, or other different kinds of Graſſes.
- VEIL, *(Calyptra)* covering the fructification of ſome of the Moſſes, and reſembling an extinguiſher.
- RUFFLE, *(Volva)* ſurrounding the Stems of many of the Funguſſes.

For a further explanation of theſe terms, and for references to the plates, examine the Dictionary of Botanical Terms.

The BLOSSOM may be either

- Of ONE PETAL, *as the* Foxglove or Primroſe.
- Of MANY PETALS, *as the* Roſe or Anemone.
- But in many flowers the Petals are altogether wanting.

For

For a more full explanation of the modifications of Petals and Bloſſoms ſee the Dictionary, and likewiſe plate 4.

The CHIVES and POINTALS have been ſufficiently explained before.

A SEED-VESSEL may be either

- a CAPSULE, *(Capſula)* membranaceous, opening variouſly; as in Poppy, Convolvulus, Pimpernel.
- a POD, *(Siliqua)* membranaceous, of 2 valves, the Seeds fixed to each ſeam; as in Wall-flower, and Honeſty.
- a SHELL, *(Legumen)* membranaceous, of 2 valves, the Seeds fixed to one ſeam only; as in Pea, and Broom.
- a BAG, *(Folliculus)* membranaceous, diſtended, of 1 valve, opening at one ſide, not embracing the Seed; as in Periwinkle.
- a BERRY, *(Bacca)* pulpy; the Seeds ſeparate; as in Gooſeberry, or Elder.
- PULPY, *(Drupa)* incloſing a hard nut; as the Cherry, or the Peach.
- FLESHY, *(Pomum)* covering a capſule containing the ſeed; as in the Pear, or Apple.
- a CONE, *(Strobilus)* tiled; as in Fir, or Pine.

Theſe terms will be found more fully explained in the Dictionary, and illuſtrated in plate 5.

A RECEP-

A RECEPTACLE *(Receptaculum)* is either peculiar to one flower, as in the Roſe, Lily, and Polyanthus; or common to many flowers, as in Dandelion, Hawkweed, and Artichoke. *(See the Dictionary.)*

FLOWERS may be collected into a
- SPIKE, *(Spica.)*
- PANICLE, *(Panicula.)*
- BROAD-TOPPED SPIKE, *(Faſtigiati.)*
- BUNCH, *(Racemus.)*
- RUNDLE, *(Umbella.)*
- TUFT, *(Cyma.)*
- WHORL, *(Verticillus.)*
- CATKIN, *(Amentum.)*

Each of theſe terms may be found in the Dictionary, where they are explained by familiar examples, and references to the plates.

For a proper underſtanding of COMPOUND Flowers the reader is likewiſe referred to the Dictionary, and to the explanation of the 4th plate.

The reader having now, it is ſuppoſed, attained tolerably preciſe ideas of the conſtitution of Claſſes and Orders, and likewiſe of the parts upon which the Generic Characters are founded; we ſhall ſelect a few inſtances of well known plants, and, after inveſtigating them ſyſtematically, we ſhall hardly be at a loſs to inveſtigate others which we do not know.

RULES

RULES for INVESTIGATION.

First. When a plant offers itſelf to our inſpection, the firſt thing to be determined is the Claſs to which it belongs. This is to be done by examining the Chives, and referring to the Table of the CLASSES oppoſite to page xv. Having fixed upon the Claſs which we believe to be right, let us turn to the Introduction to that Claſs, and if this gives us no reaſon to alter our opinion, we are pretty certain of being ſo far right. It is beſt not to truſt to the examination of one flower only; for we ſhall ſometimes find the number of Chives to be different, in different flowers upon the ſame plant. In that caſe the claſſic character muſt be taken from the *terminating* flower.

Second. We muſt next look how many ORDERS the Claſs conſiſts of; and after obſerving the circumſtances by which the Orders are determined, we muſt compare theſe with the Plant before us. If the Order we refer it to has any ſubdiviſions, we ſhall ſoon perceive under which of the ſubdiviſions we muſt expect to find the Genus.

Third. After comparing the Flowers with the Characters of different GENERA, contained in the Order, or in the particular ſubdiviſion of the Order, we ſhall ſoon perceive with which of them it beſt correſponds; and looking forward to the deſcription of that Genus, if the deſcription agrees pretty exactly with our ſpecimen, we conclude that we are now certain of the Genus. Doubtful matters will

ſome-

ſometimes ariſe; but theſe are for the moſt part made clear by obſervations ſubjoined to the generic deſcriptions; and ſtill more ſo, by duly conſidering the ESSENTIAL CHARACTER placed at the end of the generic deſcription.

Fourth. If none of the Generic Characters at the beginning of the Claſs agree with the Flower; we muſt then look at the end of the Order, or ſubdiviſion of the Order, and ſee what plants are there noticed in a ſmaller print, and with this mark † prefixed to them. If we have not found the plant before, ſome one of theſe muſt be it; therefore looking for theſe in the index, and comparing the generic deſcriptions with the ſpecimen in hand, we ſhall not only diſcover the Genus, but likewiſe the circumſtance which occaſioned our perplexity.

Fifth. Having now determined the Genus, you will obſerve that when the SPECIES under that Genus are numerous, they are ſubdivided. Conſider then which of theſe ſubdiviſions it agrees with; and having determined that, compare it with the ſeveral SPECIFIC characters. Your plant will probably agree with ſome one of theſe.

If you ſtill are in doubt, guided by the references to figures which follow the Specific Character, turn to ſuch figures as you poſſeſs; and, to make the point ſtill more certain, compare your plant with the deſcriptions which follow the references to figures; for theſe will remove many an exiſting doubt, and obviate many a poſſible miſtake.

If the plant in queſtion be any remarkable *Variety*, you will probably find it introduced after the additional deſcriptions mentioned above.

Sixth. Make it an invariable rule, not to paſs over a ſingle term, the preciſe meaning of which you do not thoroughly underſtand, without conſulting the Dictionary. By this means you will very ſoon be able to do without conſulting it at all.

Seventh. When you gather plants for examination collect a conſiderable number of the Flowers, and, if poſſible, ſome juſt opening, others fully expanded, and others with the Seed-veſſels almoſt ripe; take care alſo to gather at leaſt one Specimen of the plant as perfect and as entire as poſſible.

It was thought neceſſary to give a variety of examples for inveſtigation. 1. Becauſe only ſome of them are to be found at any one ſeaſon. 2. Becauſe plants common in one County are not equally common in all. 3. Becauſe the ſtudent is not ſuppoſed previouſly to be acquainted with many plants, and thoſe he does know are probably only a few of the more common kind. 4. He is not deſired to examine and compare *all* the examples: perhaps it will be better he ſhould ſometimes try his ſtrength, by examining unknown Flowers which he may pick up in his walks.

EXAMPLE I.

LIGUS'TRUM. Privet.

The Privet is a ſhrub common enough in hedges, in many parts of England. It generally bloſſoms in June, and its bloſſoms are white. Let us ſuppoſe a branch of it in bloſſom before us: that we are ignorant what plant it is; and are required to inveſtigate it. We look into ſeveral of the Bloſſoms, and find 2 Chives in each. This circumſtance informs us it belongs to the ſecond Claſs. Turning to the beginning of the ſecond Claſs at page 6, we find it contains two Orders, and that the Orders depend upon the number of Pointals: therefore looking again at the Flowers, we find 1 Pointal in each; ſo that our plant belongs to the firſt Order of the ſecond Claſs. We find this Order ſubdivided into four parts; and obſerve that theſe ſubdiviſions depend upon the regular or irregular form of the Petal, and upon the Bloſſom being fixed above or beneath the Seed-bud. In our ſpecimen the Bloſſom is one *regular* Petal fixed beneath the Seed-bud. Theſe circumſtances correſpond only with the firſt ſubdiviſion, which ſubdiviſion contains only one Genus; ſo that there can be no doubt but the Plant is a Liguſ'trum. We find too that the Bloſſom is cloven into four parts, and that it is ſucceeded by a Berry containing 4 Seeds. Looking forward therefore to Liguſ'trum, No. 18, page 7, we compare it with the generic deſcription, and have the ſatisfaction to find it agree pretty exactly; and perfectly ſo with the Eſſential Character ſubjoined to it. As this Genus contains only

one

one Species, we ſoon determine that it muſt be the Liguſtrum vulga're of Linnæus, or the common Privet.

Example II.

ARUN'DO. Reed.

Upon the banks of rivers, in wet ditches, and upon the borders of pools, the Reed is ſufficiently common. It is a ſort of large graſs, five or ſix feet high, and flowers in June. Having got a ſpecimen of this, we proceed to examine it ſyſtematically. At firſt ſight we obſerve that the Flowers grow in panicles, and that each Flower contains 3 Chives. We therefore turn to the beginning of the third Claſs, (page 32.) and find *that* Claſs divided into three Orders, which depend upon the number of Pointals.* Each of our Flowers contains 2 Pointals, which brings us to the ſecond Order. This Order is ſubdivided into four parts. The firſt ſubdiviſion contains the plants with Flowers ſcattered, or irregularly diſpoſed, *one* only in each Empalement. Our plant agrees with the firſt circumſtance, but not with the laſt, for we find *five* Flowers in each Empalement. The ſecond ſubdiviſion contains only *two* flowers in each Empalement, therefore we paſs that over, and come to

* N. B. The Introduction to this Claſs commences at page 27. Once for all, let it be obſerved, that the Student ſhould accuſtom himſelf to read over very attentively, the Introduction to the Claſſes, until he be perfectly acquainted with the conſtitution of each, and the exceptions which are moſt likely to involve him in difficulties.

the third, with ſcattered flowers, and *ſeveral* in each Empalement. Before we proceed further, we juſt look at the laſt ſubdiviſion, but finding the *flowers without fruit-ſtalks, fixed to a long toothed ſeat*, or Receptacle, we immediately recur to the third ſubdiviſion in the 33d page. This ſubdiviſion contains ſeven Genera, and we compare the Characters of each with the plant in hand. The want of an Awn, and the woollineſs at the Baſe of the Bloſſoms determines us to call it Arun'do. Turning therefore to Arundo, No. 99, page 116, we compare it accurately with the Generic Deſcription, and find it correſpond with that, as it does alſo with the eſſential character. But as the parts conſtituting the Flowers of Graſſes are frequently very minute, we make uſe of the Botanical Microſcope and the Diſſecting Inſtruments to diſplay them more clearly to the eye;* and likewiſe take the advantage of comparing them with the figures in the plate fronting page 29. Having determined it to be an Arundo, or Reed, the only difficulty remaining is to aſcertain the Species. We ſee that only four ſpecies of Arundo are natives of Great Britain; and the circumſtances of the five Florets in each Empalement, added to the flexibility of the Panicle, which we had obſerved whilſt growing to be waved about with every wind, leave

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* N. B. The Botanical Microſcope and Diſſecting Inſtruments may be had of the Publiſhers, or of the Country Bookſellers, price 10s. 6d. This Microſcope is now in a form more convenient for the Pocket, and is at the ſame time made to ſtand more ſteady when in uſe.

us no longer room to doubt that it is the Arun'do phragmi'tes of Linnæus, or the common Reed.

Example III.

PLANTA'GO. Plantain.

The Plantain flowers in June and July. It is very common in mowing Graſs, and on the ſides of roads. It is frequently ſtuck in the cages of Linnets and Canary Birds, who are fond of the ſeeds. Upon examining a ſpecimen of this, we find that each Flower contains 4 Chives, nearly of the ſame length, and therefore we refer it to the fourth Claſs. At page 135 we find this Claſs includes three Orders, dependant upon the number of Pointals. Each of our Flowers contains only *one* Pointal, and therefore belongs to the firſt Order. This Order admits of ſeven ſubdiviſions. The ſpecimen we have, contains Bloſſoms of *one* Petal; this Petal is fixed *beneath* the Seed-bud, and there is but *one* Seed-veſſel in each Flower. From theſe circumſtances we look for it in the ſecond ſubdiviſion, and finding by cutting acroſs the Seed-veſſel, that it is divided into two * cells, we conclude that it is a Planta'go, (No. 148.) That number occurs at page 142; we there compare it with the Generic

* To judge whether a Capſule conſiſts of one or more Cells, the beſt method is to cut it through horizontally with a ſharp knife, then carefully to pick out the ſeeds, leaving the dividing membranes entire. If it be very minute, cut off a thin ſlice horizontally, place it on the ſtage of the microſcope, view it through the magnifier, and at the ſame time diſſect it with the inſtruments.

Deſcription, and finding it agree with *that* in moſt particulars, as well as with the Eſſential Character, we try to determine the ſpecies. There are ſix ſpecies of Plantain, natives of Great Britain. Theſe Species are not ſubdivided, therefore we begin with the firſt; the Planta'go ma'jor; but the Leaves are not egg-ſhaped; nor are the ſtalks cylindrical. The Planta'go me'dia, which is the ſecond, agrees pretty well: but the Leaves are not downy, nor is the ſpike of Flowers cylindrical. With the third Species it agrees in every particular; therefore we call it the Planta'go lanceola'ta of Linnæus, or the Ribwort Plantain.

Example IV.

LONICE'RA. Honey-ſuckle.

This Plant is very common in our hedge-rows, and is very univerſally known; but let us ſuppoſe a Foreigner, who never ſaw it before, ſtruck with the beauty and the fragrance of its Bloſſoms, carrying a piece of it home for examination. Finding 5 Chives in each Flower, and the Tips not united, he refers it to the fifth Claſs. The Orders in that Claſs being determined by the number of Pointals, he knows it belongs to the firſt Order, for he obſerves only *one* Pointal in each Flower. This Order is ſubdivided into ſeven parts. The 4 *naked Seeds*, and the *rough Leaves*, immediately determine him to reject the firſt ſubdiviſion. The *bloſſom* being *fixed beneath the Seed-bud*, not correſponding with his Flower, he rejects the ſecond, and paſſes on to the third ſubdiviſion, where he finds

* * * *Flowers of* 1 *Petal; ſuperior.*

His Flower conſiſts of 1 Petal, and this Petal *is* fixed *ſuperior* to, or *above* the Seed-bud. This ſubdiviſion containing four Genera, he obſerves the three firſt have Capſules: but in the laſt the Seed-veſſel is a Berry with 2 Cells; this circumſtance, added to the inequality of the Bloſſom, and the Knob at the top of the Pointal, induces him to believe it to be a Lonice'ra. He looks for No. 250, (p. 222,) and, comparing the Flower with the Generic Deſcription, is confirmed in his opinion. Under this Genus he finds only one Species, viz. the Lonice'ra pericly'menum of Linnæus, or Wood-bind Honey-ſuckle.

EXAMPLE V.

DAU'CUS. Carrot.

We ſelect this as an example of the *Umbelliferous* or RUNDLE-bearing plants, *(See the introduction to the 5th Claſs.)*

The 5 Chives with Tips not united, and the 2 Pointals evident in each Floret, determine us to look for it in the ſecond Order of the 5th Claſs. This Order admits of four ſubdiviſions, 1ſt. *Flowers of* 1 *Petal; beneath.* But our plant has five Petals; therefore we go to the 2d, *Flowers of* 5 *Petals; beneath.* The Florets in hand have 5 Petals, but the Petals are not placed *beneath* the Seed-bud. The 3d ſubdiviſion contains imperfect Flowers, or Flowers without Bloſſoms; but our Florets have Bloſſoms compoſed of 5 Petals; therefore we proceed

ceed to the * * * * *Flowers of* 5 *Petals; ſuperior, and* 2 *Seeds: In* RUNDLES. All theſe circumſtances agreeing with the plant before us, we muſt look for it here; but obſerving that this ſubdiviſion of the Order is farther divided into plants that have the FENCE *both general and partial*; into plants with the FENCE *only partial*; and into Plants *without any* FENCE; we examine the ſpecimen, and find a Fence to each Rundle, and likewiſe a Fence to each Rundlet. The unequal ſize of the Petals; the winged Fence, and the prickly Seeds, agreeing with No. 109, Dau'cus, we turn to that Genus. Finding our plant agree with the Generic Deſcription, and only one ſpecies under that Genus, we know it to be the Dau'cus Caro'ta, or wild Carrot.

EXAMPLE VI.

GALAN'THUS. Snow-drop.

The Snow-drop, though not frequent in a wild ſtate, is to be found in almoſt every Garden, and is among the firſt of our ſpring flowers. When we look at it attentively, the firſt circumſtance which ſtrikes us is the want of a Cup, but inſtead of that we find upon the fruit-ſtalk, a ſkinny or membranaceous ſheath which covered the bloſſom in its infant ſtate. The 6 chives direct us to the ſixth Claſs, and the ſingle Pointal fixes us to the firſt Order of that Claſs. This Order is ſubdivided into,

* Flowers *with a cup and a bloſſom.*
** Flowers *with a ſheath or huſk.*
*** Flowers *naked.*
**** Flowers *imperfect.*

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The want of a cup, and the preſence of the ſkinny ſheath teach us to expect it in the 2d ſubdiviſion, which contains 3 Genera. In the Allium the bloſſom is fixed beneath the Seed-bud, but in our plant it is above it. In the Narciſſus there is a bell-ſhaped honey-cup and 6 petals, but our plant has 6 petals only, and no ſuch bell-ſhaped honey-cup. It therefore muſt be Galan'thus. At No. 433, page 340, we read the generic deſcription, and find it agree with our flower, but with the remark, that the 3 inner and ſhorter petals may be conſidered as a honey-cup. As there is but one ſpecies, our plant muſt therefore be the Galan'thus niva'lis, or common Snow-drop.

Example VII.

D A P H'N E. Mezereon.

In February the Mezereon is in bloſſom, and, though rarely found wild, is often met with in the garden. Its Chives being 8 in number we turn to the eighth Claſs, and its ſingle pointal confines our enquiries to the firſt Order. This being divided into *perfect* and *imperfect* flowers, we conclude that the flower before us belongs to the laſt ſubdiviſion, becauſe it wants an empalement. The character of Daphne correſponds with our flower, and refers us by the number, 526, to page 402. Here the examination of the generic deſcription, and Eſſential character confirm our reſearches. We find two britiſh Species, but in that before us, the flowers are ſitting, and grow *by threes*; it muſt therefore be the Daph'ne Meze'reum, or common Mezereon.

EXAMPLE VIII.

LYCH'NIS. Cuckow-flower.

White or Red Campion; Batchelors Buttons; Lych'nis, it grows wild in woods and ditch-banks, flowering all ſummer. After examining ſeveral of the Flowers, and finding 10 Chives in each, and the Threads not united; obſerving too no veſtige of any Pointals, we begin to ſuſpect that it belongs either to the twenty-firſt Claſs, where the Chives and Pointals are contained in *ſeparate* Flowers; or to the twenty-ſecond Claſs, where the Chives and Pointals are found not only in ſeparate Flowers, but theſe Flowers growing upon *diſtinct* Plants. In this ſtate of doubt we go to the place where the plant was gathered, and, after examining ſeveral, at length find that the Flowers containing Chives, and the Flowers containing Pointals, grow upon *diſtinct* Plants. We therefore turn to the twenty-ſecond Claſs, and finding the Orders of that Claſs founded upon the number of Chives, we look for it in the ninth Order, as the Flowers of that Order are ſaid to contain 10 Chives. But this Order contains only the names of two plants with a † prefixed to them. By the Direction of the fourth rule for inveſtigation, we ſearch for theſe two plants, and find at page 473 the Generic Deſcription of the Lych'nis agreeing exactly with our ſpecimen, except in the circumſtance of the Chives and Pointals being in diſtinct Flowers. This exception however is noticed in the character of the third ſpecies, and we find our plant therefore to be the Lych'nis dioi'ca, or Campion Cuckow-flower.

Example IX.

P Y'R U S. Pear.

Finding about 20 Chives in each Bloſſom, we turn to the twelfth Claſs, which is the Claſs of 20 Chives. The Introduction to this Claſs, at page 503, informs us, that the number of Chives alone will not diſtinguiſh it from the preceding and enſuing Claſs; we therefore attend to the directions there delivered, and finding in our plant that the Cup is formed of a ſingle concave Leaf; that the Petals are fixed to the *ſides* of the Cup, and that the Chives do not ſtand upon the Receptacle, we conclude that we have claſſed it right; and ſeeing each Flower furniſhed with 5 Pointals, we look for the Genus under the fourth Order. This Order contains three Genera. In the laſt Genus the Cup is fixed beneath the Seed-bud, but in our Plant it is above the Seed-bud. In other reſpects it correſponds with the two firſt Genera. The Cup being cloven into 5 parts, and the Bloſſom being compoſed of 5 Petals, are circumſtances common to both. But the fruit of the firſt is a Berry, containing 5 Seeds, and the fruit of the 2d is a fleſhy Apple with 5 Cells and *many* Seeds. Hence it appears that our plant is undoubtedly the Py'rus, No. 682; and turning to the generic deſcription at page 516, we are confirmed in this opinion. We next compare it with the only two Britiſh Species, and are ſoon enabled to determine whether we have got the Py'rus commu'nis, or the Py'rus ma'lus, *i. e.* the Pear or the Apple.

EXAMPLE X.

RANUN'CULUS. Crowfoot.

The beautiful ſhining yellow Bloſſoms of Crowfoot, and the frequency of it in paſtures in the months of June and July, will probably attract our notice; eſpecially as cattle leave it untouched, even when the paſture is bare. We therefore collect ſome of it; and finding a great number of Chives in each Bloſſom, we refer it to the Claſs of *many* Chives. The Introduction to this Claſs, at page 542, tells us, that the Chives ſtand upon the Receptacle and not upon the Cup. As this appears to be the caſe, we next examine the pointals, and finding them more than can readily be counted, we refer to the 7th Order of *many* Pointals. This Order includes nine Genera. The ſix firſt that occur have no Cup; but our Flower has a Cup of 5 Leaves. It is clear then that it muſt be ſome one of the other three. Upon an accurate examination we obſerve the little bag or Honey-cup at the claw of each Petal, and, governed alſo by the number of Leaves forming the Cup, and of petals compoſing the Bloſſom, we turn to the generic deſcription of the Ranun'culus, at page 571. Quite ſatisfied about the Genus, we obſerve the Species are numerous, and arranged according as the Leaves are *divided*, or *not divided*. In our ſpecimen the Leaves are divided. We then compare it with each of the Species, and, from its open or expanded Empalement, its cylindrical fruit-ſtalks, its leaves with 3 diviſions, many clefts, &c. find it to be the Ranun'culus a'cris, or upright Crowfoot.

EXAMPLE XI.

LA'MIUM. Archangel.

Or white or red Deadnettle. It grows every where upon ditch-banks, amongſt rubbiſh, and in orchards.

Upon opening the Bloſſom we find 4 Chives, and as 2 of the Chives are conſiderably longer than the other two, we expect to find it in the 14th Claſs. After reading the Introduction to that Claſs, we have no doubt of having claſſed it right. We then obſerve that the two Orders in this Claſs are characteriſed from the Seeds being *naked*, or *covered*. In our ſpecimen we find 4 *naked* Seeds at the bottom of the Cup; ſo that it belongs to the firſt Order. This Order admits of two ſubdiviſions, founded upon the clefts of the Cup; our plant arranging under Cups with 5 Clefts, we carefully compare it with each of the generic characters; and, after ſome difficulty; guided by the briſtle-ſhaped tooth on each ſide the Mouth of the Bloſſom; we pronounce it to be a Lamium. We ſhall get but little further information from the Generic Deſcription at page 604, for this Claſs being a natural aſſemblage of plants greatly reſembling each other, the differences are not very obvious, but, by cloſely attending to the Eſſential Character, we ſhall ſeldom be at a loſs to determine the Genus. Upon reading the characters of the three Britiſh Species, we are ſoon determined by the taper-pointed, heart-ſhaped Leaves, &c. to call it the La'mium al'bum, or white Archangel.

EXAMPLE XII.

CHEI'RANTHUS. Wall-lower.

This plant is very generally known. It grows wild upon old walls, and is frequently cultivated in gardens.

Carefully remove the Empalement and the Petals, and you will find 6 Chives; two of which are ſhorter than the other 4. It belongs therefore to the fifteenth Claſs. The Orders of this Claſs depend upon the form of the Seed-veſſel; and, after examining the ſpecimen, you neceſſarily refer it to the firſt ſubdiviſion of the ſecond Order; for the Seed-veſſel is *long*, and the Leaves of the Cup ſtand upright and cloſe to the Bloſſom. It is poſſible you muſt diſſect ſeveral Flowers before you can aſcertain the Genus; for this Claſs is compoſed of a natural aſſemblage of plants, whoſe Flowers bear a ſtrong reſemblance to each other, and the differences when this is the caſe, are not very obvious. At length, however, the ſmall glandular ſubſtance on each ſide the baſe of the Seed-bud, determines you to refer it to No. 879, Chei'ranthus. Upon a compariſon with the Generic Deſcription, at page 698, you find it accurately deſcribed; and the ſhape of the Leaves, &c. put it beyond a doubt that it is the Chei'ranthus Chei'ri, or wall Gilli-flower.

EXAMPLE XIII.

ALTHÆ'A. Marſh-mallow.

Or Wymote. It naturally grows in ſalt marſhes, but upon account of its medical uſes it is cultivated in moſt gardens, and is pretty generally known.

Upon

Upon examining the Flower, we find the Chives numerous, and the Threads all united at the Baſe. Recollecting that this circumſtance characteriſes the Flowers of the ſixteenth Claſs, we find the Orders in that Claſs depend upon the number of Chives; and obſerving that the Flowers before us contain more than 10 Chives, we muſt expect to find the plant in the Order of *many* Chives. The three Genera contained in that Order nearly reſemble each other; but the outer Cup being cloven into 9 parts, we *muſt* ſuppoſe it No. 904. Under that Genus, at page 735, we find only one Species, and as our plant agrees both in the generic and ſpecific characte , we pronounce it to be the Althæ'a officina'lis or Marſh-mallow Wymote.

Example XIV.

SPAR'TIUM. Broom.

From the appearance of the Chives, which are all united by the Threads, we ſhould be at a loſs whether to expect this plant in the ſixteenth or in the ſeventeenth Claſs; but the butterfly-ſhape of the Bloſſom determines us to the latter. After reading the Introduction to this Claſs, (at page 744,) we obſerve that the Orders depend upon the number of Chives. The Flowers of our plant contain 10 Chives; and, as the Threads are *all united*, we are at no loſs to ſee, that it belongs to the firſt ſubdiviſion of the fourth Order. We now compare it with the characters of the different Genera; but, as the Genera of this Claſs are a natural aſſemblage, and, from their ſimilarity, admit of one *general*

Natural

NATURAL CHARACTER, the differences between each Genus muſt depend upon minute circumſtances; and therefore demand a good deal of attention. At length we perceive, from the woolly Summit, and the threads clipping the Seed-bud cloſely, that it muſt be the Spartium, No. 929. Comparing it therefore with the Generic Deſcription of Spartium, (page 756,) and ſtill further confirmed by the Eſſential Character, we find it muſt be the Spar'tium ſcopa'rium, or common Broom.

EXAMPLE XV.

LEON'TODON. Dandelion.

Or Piſs-abed. This plant is in bloſſom during great part of the ſpring and ſummer; it grows in paſtures, road ſides, and the uncultivated parts of gardens. At the firſt view we perceive its ſtructure to be very different from any we have examined before; we hardly know what to call Chives or what Pointals. The fact is this; this is a true COMPOUND FLOWER, or a flower formed of a number of little flowers, or (Florets,) ſitting upon one *common* Receptacle, and incloſed by one *common* Empalement. Turning to COMPOUND FLOWERS and FLORETS in the Dictionary, and reading the explanation of Compound Flowers, with references to the fourth plate, we ſoon attain a true idea of the matter; and therefore ſeparating one of the Florets, and examining it carefully, we find 5 Chives with the Tips united, and the Pointal paſſing through the cylinder formed by the union of the Tips. We therefore refer it to the nineteenth Claſs. By ſtudying the Introduction to that Claſs,

(at

(at page 818,) we understand still more clearly the nature of Compound Flowers, and the Florets that compose them. We learn too how the Orders are constituted; and, upon examing the Flower before us, and finding that all the Florets are furnished with Chives and Pointals, we perceive that it belongs to the first Order. From the shape of the Blossoms of the Florets, which are all long and narrow, we know that we must look in the first subdivision of that Order. Perceiving that the Receptacle is an important circumstance in the character of Compound Flowers, we pull off all the Florets in one of the Flowers, and expose the Receptacle to view. We find it naked; *that is*, not beset with chaffy or bristly substances. We find too a Feather adhering to the Seeds; and observe the scales of the Empalement flexible, some of them being bent back. These characters corresponding pretty well with the Leon'todon, No. 991, we fix upon that as the Genus. One circumstance, however, makes us doubt; the feather of our plant is not properly *downy*, but consists of simple hairs issuing from the top of a slender pillar fixed to the Seed.* But as we look forward to the generic description for fur-

* *Feathers* of Seeds in the Compound Flowers are either formed of *simple* hairs, or of hairs set with other finer hairs; in the former case the Feather is said to be *hairy*, in the latter it is called *downy*. Now as these circumstaaces must be attended to, in forming Generic distinctions, it is necessary to apprise the learner, that the Feather must be exposed to the air a little time before he can pronounce whether it is hairy or downy, for whilst it is moist in the flower, the down often lies so close to the hair as not to be visible.

ther information, at page 838, we find this difficulty noticed in an obſervation ſubjoined to the Eſſential Character. As there are three ſpecies of this genus natives of Great Britain, we read the ſpecific characters, and, from the deep notches in the leaves, judge our plant to be the Leon'todon Tarax'acum, or common Dandelion.*

It will be very proper for the learner thus to examine ſeveral more Genera of this Claſs, as the Coltsfoot, the Burdock, the Thiſtle, the Tanſy, the Daiſie, and the Groundſel; for, by doing this, he will ſoon overcome the difficulties which preſent themſelves.

It may not be amiſs for him to begin with a Sunflower, which, though not an Engliſh plant, and therefore not to be found in this Book, may yet, from the large ſize of its Florets, enable him to form a good idea of the ſtructure of compound flowers.

We are at firſt ſurprized to find the Violet, and other ſimple Flowers, in the ſame claſs with the compound Flowers; but we ſoon recollect that the claſſic

* This plant was ſelected as an example, partly becauſe it is known to almoſt every child, and partly becauſe it is an exception to the uſual accuracy of the Linnæan characters, and ſhould teach the ſtudent to exerciſe his own powers of obſervation. He may poſſibly have referred it to the Genus Crepis, to which it really ought to belong, and there he will alſo find it, at page 853, with a reference back to Leontodon.

claſſic character is not taken from the *appearance* of the Bloſſoms, but from the circumſtance of the TIPS being UNITED.

By paying a proper attention to the nature of Compound Flowers, we ſoon learn to diſtinguiſh them from double Flowers: and when by accident or cultivation any of the true compound Flowers become double, we ſhall always find it depends upon the multiplication of ſome of the parts, and the excluſion of others.

EXAMPLE XVI.

A'RUM. Cuckow-pint.

Not unfrequent in ſtiff ſoils. It generally grows in ſhady places; in roughs, and at hedge bottoms. It is ſometimes called Wake-robin, or Lords and Ladies. It flowers in May.

There is ſomething ſo very peculiar and unuſual in the ſtructure of this Flower, that we find ourſelves altogether at a loſs how to ſet about the inveſtigation of it. What ſhall we call this purpliſh long ſubſtance that ſtands upright within the ſheathing empalement? We remove the Empalement to examine the lower part of it, and there we find it ſurrounded by the Seed-buds. It muſt therefore be a ſort of Fruit-ſtalk, or an elongated Receptacle. Upon a cloſer inſpection we obſerve a number of hair-like Fibres or Threads, but without Tips. We now diſcover ſomething like Tips without Threads, and from their ſituation we begin to think the plant

belongs perhaps to the twentieth Claſs. As the Tips are numerous, and the Orders depend upon the number of Chives, we look for it in the Order of many Chives, where we find two Genera; and from their characters we think it moſt likely to be the A'rum, No. 1119, but we are by no means certain. We turn therefore to that Genus, (p. 1004) and here we are referred to the next Claſs, and there we feel every doubt diſpelled. The generic deſcription, the ſpecific character, and the obſervations, all conſpire to identify the plant before us; we congratulate ourſelves that we were not puzzled by any common circumſtance; and in reading the obſervations ſubjoined to the ſpecies, we find that it has been removed here in conſequence of the ſuggeſtions of the younger Linnæus, who firſt taught us properly to underſtand the ſtructure of this truly ſingular flower.

The firſt Order in the Claſs Gynandria requires a particular examination, and, if we know the Orchis, or any other Genus contained therein, it will be well to compare it with the deſcriptions. The Orchis is frequent in moiſt clayey ſoils: it bears large Spikes of purpliſh Flowers, and bloſſoms in April, May, June, and July.

Example XVII.

BET'ULA. Birch.

The Birch is a tree common enough in Great Britain, and very generally known. The Flowers are diſpoſed in Catkins; ſome of the Catkins are compoſed

compoſed of Florets which contain only Chives, but we find others upon the ſame tree, whoſe Florets contain only Pointals. This circumſtance makes us refer it to the twenty-firſt Claſs. As each of the barren Florets contains 4 Chives, we look for it in the fourth Order. The Catkins, and the number of Flowers or Florets in each ſcale correſponding with our ſpecimen, we ſuppoſe it the Bet'ula, No. 1147. We turn forward to that number, and the generic deſcription at page 1065, confirms our ſuppoſition. The Species are two, but the ſhape of the leaves directs us to call our plant the common Birch, or the Bet'ula al'ba.

EXAMPLE XVIII.

HU'MULUS. Hop.

The Hop flowers in June. It grows common in the hedges in many parts of England, though cultivated in few.

We examine many of the Flowers, and find 5 Chives in each, but no appearance of Pointals. We believe therefore that the Chives and Pointals grow upon diſtinct plants, and accordingly turn to the twenty-ſecond Claſs. As we have 5 Chives in each Flower, and the Tips *not united*, we find it in the fifth Order. That Order containing only one Genus, there can be no room for doubt. We therefore call it Hu'mulus, No. 1221. The generic deſcription at page 1117 correſponds; and if we afterwards meet with a plant bearing only fertile Flowers, that is, Flowers with Pointals, but no

Chives, we ſhall find them deſcribed likewiſe. There is only one Species, viz. the common Hop, or the Hu'mulus lu'pulus of Linnæus.

Theſe examples will, it is ſuppoſed, afford ſufficient inſtruction to the learner, but, if he wiſhes for others, he may conſult the Table of the Claſſes facing page xv.

The experienced Botaniſt will immediately perceive that I have not given an example out of every Claſs, but he hardly need be told that the MONANDRIA claſs contains no ſpecies likely to fall ſoon under the notice of the learner; that the HEPTANDRIA, the ENNEANDRIA, and the POLYADELPHIA, contain each only one Genus; that in the DODECANDRIA the plants commonly known being exceptions to the more obvious Claſſic character, would at firſt only tend to perplex us; and that the POLYGAMIA Claſs requires no particular illuſtration, though, for the ſake of thoſe who may think otherwiſe, the common Aſh, or Frax'inus excel'ſior, the common Croſswort, or Valan'tia Crucia'ta, and the Sycamore tree (A'cer Pſeudo-Plat'anus) may be pointed out as examples.

It ſtill remains to ſay ſomething of the twenty-fourth Claſs. The plants in that Claſs are not arranged like the other parts of the ſyſtem, and therefore cannot be inveſtigated in the ſame manner. They are divided into four natural aſſemblages, viz. FILICES, MUSCI, ALGÆ, and FUNGI. Theſe partake of nothing in common, that can with propriety

propriety bring them into the ſame Claſs, unleſs it be the difficulty of diſcerning their minute and inconſpicuous Flowers. The generic and ſpecific characters being taken from their general external appearance, we can only recommend a careful peruſal of the Introduction to the Claſs, and an intimate acquaintance with the terms made uſe of. This being done, the induſtry of the ſtudent cannot fail of its proper reward.

After conducting my Pupils in this familiar manner through the different parts of the Syſtem, I muſt ſuppoſe that they no longer ſtand in need of my aſſiſtance, and that they will ſoon find themſelves equal to the inveſtigation of every Britiſh plant which may come before them. But this is not all: They will find that the Study of Nature is ever attended with pleaſing reflections; that the Study of Botany, in particular, independent of its immediate uſe, is as healthful as it is innocent. That it beguiles the tedioufneſs of the road, that it furniſhes amuſement at every footſtep of the ſolitary walk, and, above all, that it leads to pleaſing reflections on the bounty, the wiſdom, and the power of the great CREATOR.

☞ *The Author will thankfully receive any communications that can tend to render this book more perfect; and, in case the public ever calls for another edition, such new facts or observations as occur, shall be inserted, with suitable acknowledgments.*

DIRECTIONS

FOR

DRYING *and* PRESERVING

SPECIMENS of PLANTS.

MANY methods have been deviſed for the preſervation of plants; we ſhall relate only thoſe which have been found moſt ſucceſsful.

Firſt prepare a preſs, which a workman will make by the following directions.

Take two planks of well-ſeaſoned wood not liable to warp. The planks muſt be two inches thick, eighteen inches long, and twelve inches broad. Get four male, and four female ſcrews; ſuch as are commonly uſed for ſecuring ſaſh windows. Let the four female ſcrews be let into the four corners of one of the planks, and correſponding holes made through the four corners of the other plank for the male ſcrews to paſs through, ſo as to allow the two planks to be ſcrewed tightly together. It will not be amiſs to face the bearing of the male ſcrews upon the wood, with iron plates; and, if the iron plates went acroſs from corner to corner of the wood, it would be a good ſecurity againſt the warping.

When

When a preſs is not at hand, the ſpecimens may be dried tolerably well between the leaves of a large folio book, laying other books upon it to give the neceſſary preſſure; but in all caſes too much preſſure muſt be avoided.

Secondly, get a few ſheets of ſtrong card paſteboard, and half a dozen quires of large, ſoft, ſpongy paper: ſuch as the ſtationers call Bloſſom Blotting Paper, is the beſt.

The plants you wiſh to preſerve ſhould be gathered in a dry day, after the ſun has exhaled the dew; taking particular care to collect them in that ſtate wherein their generic and ſpecific characters are moſt conſpicuous. Carry them home in a tin box, which may be made about nine inches long, four inches and a half wide, and one inch and a half deep. Get the box made of the thinneſt tinned iron that can be procured; and let the lid open upon hinges. The box ſhould be painted, or lacquered, to prevent it ruſting. If any thing happens to prevent the immediate uſe of the ſpecimens you have collected, they will be kept freſh two or three days in this box, much better than by putting them in water; but the Bloſſoms of ſome plants are ſo very delicate, that they ſhrivel in a very ſhort time, and often before you can well examine them. In this caſe, put the ſtems in water, cover the whole with a glaſs bell, like thoſe uſed in gardens, or the receiver of an air-pump will do; expoſe them to the ſun, and, in half an hour, you will find them compleatly expanded. When you

are going to preſerve them, lay them down upon a paſteboard, as much as poſſible in their natural form; but, at the ſame time, with a particular view to their generic and ſpecific characters. For this purpoſe it will be adviſeable to ſeparate one of the flowers, and to diſplay the generic character. If the ſpecific character depends upon the flower, or upon the root, a particular diſplay of that will be likewiſe neceſſary. When the plant is thus diſpoſed upon the paſteboard, cover it with eight or ten layers of the blotting paper, and put it into the preſs. Exert only a ſmall degree of preſſure, for the firſt two or three days; then examine it, unfold any unnatural plaits, rectify any miſtakes, and, after putting freſh paper over it, ſcrew the preſs a little harder. In about three days more, ſeparate the plant from the paſteboard, if it be ſufficiently firm to allow of a change of place; put it upon a dry freſh paſteboard, and, covering it with freſh bloſſom paper, let it remain in the preſs a few days longer. The preſs ſhould ſtand in the ſun-ſhine, or within the influence of a fire, for nothing is ſo deſtructive to the beauty of the Specimens as a long continued dampneſs.*

When it is perfectly dry, the uſual method is to faſten it down with paſte or gum water, on the right hand inner page of a ſheet of large ſtrong writing-paper. It requires ſome dexterity to glue the plant neatly

* One of my correſpondents aſſures me, that he finds old broad cloth better than paper, for abſorbing the moiſture of the plants; but I have not had occaſion to try it.

neatly down, ſo that none of the gum or paſte may appear to defile the paper. Preſs it gently again for a day or two, with a half ſheet of bloſſom-paper between the folds of the writing paper. When it is quite dry, write upon the left hand inner page of the paper, the name of the plant; the ſpecific character; the place where, and the time when it was found; and any other remarks you think proper. Upon the back of the ſame page, near the fold of the paper, write the name of the plant, and then place it in your cabinet. A ſmall quantity of finely powdered arſenic, or corroſive ſublimate, is frequently mixed with the paſte or gum water, to prevent the devaſtations of inſects; but the ſeeds of Staves-acre finely powdered, will anſwer the ſame purpoſe, without being liable to corrode or to change the colour of the more delicate plants. Some people put the dried plants into the ſheets of writing paper, without faſtening them down at all, which I think much the moſt uſeful way: others only faſten them by means of ſmall ſlips of paper, paſted acroſs the ſtem or branches. In the twenty-fourth Claſs ſome of the Genera contain a great number of ſpecies; where this is the caſe, and the ſpecimens are ſmall, ſeveral of them may be put into one ſheet of paper, but a ſeparate ſheet to each ſpecies is to be preferred.

Another more expeditious method is to take the plants out of the preſs, after the firſt or ſecond day; let them remain upon the paſteboard; cover them with five or ſix leaves of bloſſom paper, and iron them with a hot ſmoothing iron, until they are perfectly

fectly dry. If the iron be too hot, it will change the colours; but ſome people, taught by long practice, ſucceed very happily. This is quite the beſt method to treat the different Species of Orchis and other ſlimy mucilaginous plants.

I am indebted to T. Velley Eſq. of Bath, for the following improved method of drying plants, which, as it is the reſult of much experience, cannot but prove acceptable to the practical botaniſt. I conſider his permiſſion to make it public as an additional obligation, and cannot avail myſelf of it to better purpoſe, than by adopting his own words, which I ſhall therefore tranſcribe from his Letters.

—— " I place the plant when freſh, between " ſeveral ſheets of blotting paper, and iron it with " a *large* ſmooth heater, pretty ſtrongly warmed, " till all the moiſture is diſſipated. The flowers " and fructification I fix down with gum, upon " the paper on which they are to remain, and iron " them in that ſtate, by which means they become " almoſt incorporated into the paper, in their " proper forms. Many colours I have been able " to fix, which frequently forſook the flowers dur- " ing the gradual and tedious proceſs of ſand-heats, " and other methods which I had before tried.

" Some plants require a more moderate heat " than others: experience muſt determine this; " and herein conſiſts the nicety of the experiment. " The forms and colours ſeem to remain more per- " fect by this mode than by any other I have been

" able

" able to try."——" If the mucilaginous and ſuc-
" culent plants do not ſucceed ſo well with reſpect
" to their colour, under the hot ſmoothing iron,
" I have always found that they failed full as much,
" or more, when preſerved by other means. The
" colours of the bloſſoms in the didynamious claſs,
" I could never fix by a ſand-heat. Several of
" theſe, as well as of the rough-leaved plants, I
" have preſerved tolerably well by ironing.

" It is neceſſary to obſerve, that in compound
" flowers, or in thoſe of a ſolid and more ſtubborn
" form, as the Centaurea, &c. ſome little art muſt
" be employed in cutting away the under part, by
" which means the profile and form of the flowers
" will be more diſtinctly exhibited, provided they
" are to be paſted down."—" After all, it muſt
" be remembered that a plant, when preſerved in
" a moſt perfect ſtate, is a kind of Hygrometer, and
" if expoſed for any time to a moiſt atmoſphere, or
" laid up in a ſituation which is not perfectly dry,
" will imbibe a degree of humidity that muſt ſoon
" prove injurious to the beauty of the ſpecimen."

Mr. Velley ſent me ſome plants dried by theſe means, which are the moſt beautiful ſpecimens I have ſeen. The facility of drying plants by ironing, muſt render this method particularly acceptable to the travelling botaniſt.

Where no better convenience can be had, the ſpecimens may be diſpoſed ſyſtematically in a large folio book; but a vegetable cabinet, called a Hortus ſiccus, or an Herbarium, is, upon all accounts,

more

more eligible. In plate XII. you have a ſection of an Herbarium, in the true proportions it ought to be made, for containing a compleat collection of Britiſh plants. By the aſſiſtance of this drawing, and the adjoining ſcale, a workman will readily make one. The drawers muſt have backs and ſides, but no other front than a ſmall ledge. Each drawer will be fourteen inches wide, and ten inches from the back to the front, after allowing half an inch for the thickneſs of the 2 ſides, and a quarter of an inch for the thickneſs of the back. The ſides of the drawers, in the part next the front, muſt be ſloped off in a ſerpentine line, ſomething like what the workmen call an ogee. The bottoms of the drawers muſt be made to ſlide in grooves cut in the uprights, ſo that no ſpace may be loſt between drawer and drawer. After allowing a quarter of an inch for the thickneſs of the bottom of each drawer, the clear perpendicular ſpace in each muſt be as in the following table.

I. Two tenths of an inch.
II. One inch and two tenths.
III. Four inches and ſix tenths.
IV. Two Inches and three tenths.
V. Seven inches and eight tenths.
VI. Two inches and two tenths.
VII. Two tenths of an inch.
VIII. One inch and four tenths.
IX. Two tenths of an inch.
X. Two inches and eight tenths.
XI. One inch and two tenths.
XII. Three inches and five tenths.
XIII. Two inches and four tenths.
XIV. Three inches and eight tenths.
XV. Three inches and four tenths.
XVI. One inch and three tenths.
XVII. Two inches and eight tenths.
XVIII. Six tenths of an inch.
XIX. Ten inches.
XX. One inch and nine tenths.
XXI. Four inches and four tenths.
XXII. Two inches and ſix tenths.
XXIII. One inch and two tenths.
XXIV. Seventeen inches.

This cabinet ſhuts up with two doors in front, and the whole may ſtand upon a baſe, containing a few drawers for the reception of duplicates and papers. Where a very compleat collection of plants of the Cryptogamia claſs is intended, the ſpace in the 24th drawer will be inſufficient; but this may be remedied, by alloting the drawers in the baſe of the cabinet to that purpoſe.

In addition to the methods of preparing a Hortus ſiccus already pointed out, I am deſired by my friend Mr. Whateley, Surgeon, in London, to inſert the following account of a method which he has uſed with the greateſt advantage; and ſuch of my readers as obſerve his rules, and execute them with adroitneſs, will find their attentions well rewarded.

" Procure a compleat Specimen of the plant, " not wet, not injured by inſects, with the flowers, " ſeeds, leaves, and root, (if the plant will admit " of it,) and adapted in the larger plants to the " ſize of the paper.

" Remove the dirt, decayed leaves, and other " unneceſſary parts. The plant muſt then be laid " upon the inſide of a ſheet of common cap paper, " in the exact part of it where it is intended to " remain, to be expanded and compreſſed in the " following manner; but, previous to that, the " underwritten apparatus muſt be ready, viz. a " great number of ſcraps of the ſame cap paper, " from one to four inches ſquare, rubbed between " the hands till ſoft—(if the paper is ſtiff, it will

" not

" not yield ſufficiently to the preſſure of the ſand,
" which would make the plant ſhrivel,)—ſome ſmall
" leaden or other flat weights—a few ſmall books—
" and a wooden box filled with clean dry ſand;
" that which I have always uſed, and would re-
" commend, is a ſtrong oak box that is brought
" out of Cornwall with tin; it is eaſily procured,
" and bears a ſummer's roaſting. The cracks and
" chinks ſhould be paſted over with ſtrong paper,
" on the inſide. The neateſt ſand is the white
" writing ſilver ſand, but any other kind that is
" dry and ſifted will do. The flowers and leaves
" at the upper part of the plant are firſt to be co-
" vered ſeparately, with ſome of the ſcraps of
" paper; one of the weights, or a ſmall book, is
" afterwards to be put upon them. The next flowers
" and leaves are then to be covered in the ſame
" manner; and ſo on to the lower part of the
" plant, till the whole are expanded; and as many
" weights or books put upon the paper, as are ſuf-
" ficient to keep the different parts of the plant in
" the intended form; and, as the beauty of the
" ſpecimen very much depends upon this part of
" the proceſs, each large petal ought to be ſeparately
" laid flat with a piece of paper, and the utmoſt
" care taken, that every part of the plant is laid
" down without folds, which may be done in gene-
" ral in a ſhort time.

" The left hand leaf of the ſheet of paper is
" then to be brought in contact with the other half,
" leaving the plant and papers between them,
" which may be done by removing carefully the

" weights and books to the outſide of the paper.
" —If more than one plant is intended to be dried
" at the ſame time, the weights may be taken off,
" and two or three ſmall books placed upon the
" paper, which ſhould be carried in this ſtate to
" another table, by taking hold of each end of it.

" Plants of the Genus Potamogeton, or others
" that grow in water, ought to be put into the
" ſand, without loſs of time, and well preſſed,
" elſe they are very apt to dry and ſhrivel.

" When all the plants are prepared, a layer of
" ſand, an inch deep, is to be put into the box,
" and one of the plants, with the books placed
" upon it. Theſe laſt are to be carefully removed,
" and a layer of ſand, rather deeper than the
" former, inſtantly put upon the paper. The
" other plants are afterwards to be placed and
" covered in the ſame manner, till the whole are
" finiſhed. This done, every part of the ſand
" muſt be gently preſſed down by the foot, and
" the degree of preſſure regulated by the nature of
" the plants. If they are ſtiff and firm, as the
" Holly or Furze, much preſſure is required; if
" tender and ſucculent, a leſſer degree is better,
" for fear of extravaſating the juices, which would
" injure the colour of the plant; but particular
" care ſhould be taken to make a ſufficient degree
" of preſſure upon the expanded bloſſoms, that
" they may not ſhrivel in drying.

" The

" The box is then to be carefully placed before " a fire, or in a gentle oven, as may be moſt con- " venient, alternately changing the ſides of the " box to the fire, once or twice a day. In two or " three days the plants will be perfectly dry: the " ſand muſt then be taken out with a common plate, " and put into a ſpare box, and the papers, with " the plants, carefully taken out alſo, put into a " ſheet of writing paper, and kept in a very dry " ſituation, elſe the beauty of the plant will go " off.

" This method of preſerving plants is, from much " experience, preferable to any other, and has " every advantage attending it that can be wiſhed " for. It dries moſt of them of a fine natural and " durable colour, as well in the flowers as the " leaves; but it will be found upon trial, that a " different degree of heat is ſuitable to different " plants, and that ſome will dry much better than " others. I have always found the fewer plants " there were in the box at a time, and the quicker " the heat, the better the colours were. Thoſe " plants that have coloured flowers ſhould always " be placed uppermoſt, elſe their colour will be " injured by the moiſture from the others."

A

DICTIONARY

OF

ENGLISH BOTANICAL TERMS,

With the correſponding TERMS of LINNÆUS.*

ABORTIVE (abortivi floſculi) producing no ſeed. See Barren.

ABRUPT (abruptus) when a winged leaf ends without a tendril or a little leaf. Pl. 8. fig. 53.

ACORN. The ſeed of the *Oak*.

ALTERNATE (alternus) branches, or leaves; as the leaves of *Borrage, or Chequered Daffodil*. Pl. 9. f. 3. *(d. d. d. d. d.)* Pl. 8. f. 54.

ANNUAL (annuus) living only one year; as the *Larkſpur*.

ANGULAR (angulatus) STEM, &c. having edges or corners: oppoſed to cylindrical. A ſtem or ſtalk may have 1, 2, 3, 4, or more angles or corners. The *White Archangel* hath 4.

.....CAPSULE; as in *Flower de Luce*, or *Flag*.

APPROACHING (connivens) LEAVES; bent inwards towards the ſtem. Pl. 9. f. 5. *(a. a.)*

.....PETALS converging to the centre of the flower, as in the *Pæony. Globe Flower*.

* The plants referred to in this Dictionary, for the ſake of illuſtrating the different *Terms*, are for the moſt part natives of this Iſland, and are quoted by their moſt common Engliſh names, becauſe the reader who recollects them will immediately, and without further trouble, be able to form the right idea which the term is intended to convey; and as theſe names are inſerted in the index, he may eaſily turn to the proper generic and trivial name. The inſtances taken from exotic plants, are chiefly ſuch as are cultivated in almoſt every garden, and are introduced only when an Engliſh plant was wanting to which the term could be properly applied, or when it was thought that the exotic was more commonly known and more eaſily attainable than the native.

THREADS;

..... THREADS; as in *Borrage*.

..... TIPS; leaning towards each other; as in the *White Archangel* and *ivy-leaved Gill*.

ARROW-SHAPED (ſagittatus) LEAF; ſhaped like the head of an arrow, as the leaves of *Sorrel*; the *Small* or *Great Bindweed*. Pl. 7. f. 13.

..... TIPS; as in the *Crocus*. *Elder*.

..... PROPS; as in the *Pea*.

ASCENDING (aſcendens) growing firſt horizontally and then bowed upwards. It is applicable either to *Leaves*, to *Stalks*, to *Stems*, as in ſpiked *Speedwell*, or to *Chives*, as in all the *Speedwells*. *See the Chive next below (a.) in* pl. 1. f. 8.

AWL-SHAPED (ſubulatus) ſlender, and becoming finer towards the end, like an awl. Pl. 7. f. 8. Pl. 5. f. 15. *(a)* as the *Leaves* of *Rock Stone-crop*.

..... THREADS; as in *Crocus*. *Borrage*. *Daffodil*. *Hawthorn*.

..... SEEDS; as in *Shepherds Needle*.

AWN (ariſta) the ſlender ſharp ſubſtance growing to the valves of corn or graſs, and frequently called a beard. It is remarkable enough in *Oats* and *Barley*. It is ſometimes uſed to ſignify a ſharp point terminating a leaf, &c. Pl. 2. f. 21. *(b. b.)* f. 23. *(b. b.)*

BAG (folliculus) a diſtended bladder-like ſeed-veſſel, opening on one ſide, as in the *Periwinkle*, or *Bladder Sena*.

BARE (nudus) a bare ſtem, deſtitute of leaves.

..... leaf, oppoſed to hairy, woolly, &c.

BARK (cortex) the univerſal covering of the ſtems, roots, and branches of vegetables. It is generally ſpoken of as *inner* and *outer*. Bloſſoms are an expanſion of the *inner*, and empalements are a continuation of the *outer* bark.

BARREN (maſculi) (ſtaminei flores) FLOWERS, thoſe that produce no perfect ſeeds. The barren flowers are generally thoſe that have chives, but no pointals. Flowers that have only pointals are ſometimes barren, owing to the abſence of other flowers that have chives. In the Rundled flowers (Claſs V. Order II.) it is not uncommon to have ſeveral of the florets barren, though they are furniſhed both with chives and pointals; perhaps owing to ſome imperfection in the pointals; but future obſervation muſt determine this matter. Pl. 1. f. 21. *a*. 22. *a*. 23.

BASE (axillaris) that part of a leaf, &c. neareſt to the branch or ſtem.

.... OF THE LEAVES OR BRANCHES. Flowers or fruit-ſtalks are often ſaid to grow at the *baſe* of the leaves, or the branches; that is, when they are placed at the bottom of a leaf or branch, and on the inner ſide, where it joins to the ſtem. Pl. 9. f. 5. *(m.)* the fruit-ſtalks of the *Common Pimpernel*; the *Great Periwinkle*, and the *Flowers* of the *Common Calamint*, are examples.

BATTLEDORE-SHAPED (dolabriformis) and of unequal thickneſs like an axe.

BEADED (granulatus) conſiſting of many little knobs connected by ſmall ſtrings. As the roots of the *White Saxifrage*.

BEARDED

BEARDED (barbatus) beſet with ſtraight parallel hairs.

BELL-SHAPED (campanulatus) the idea this term is intended to convey cannot well be miſtaken; examples of it occur in the *Cup* of the *Cherry*; in the *Bloſſoms* of the *Convolvulus* or *Lily of the Valley*; and in the *Honey-cup* of the *Wild Daffodil*. Pl. 5. f. 1. *(a.)* Pl. 4. f. 2. 3. 4. 5.

BENEATH (inferus) a *Bloſſom* is ſaid to be *beneath* when it includes the ſeed-bud and is attached to the part immediately below it, as the bloſſom of *Sage*; *Borrage*; *Convolvulus*. *Polyanthus*.

..... a SEEDBUD is ſaid to be *beneath* when it is placed below the attachment of the bloſſom, and therefore not included within it; as in the *Honey-ſuckle*; *Currant*; *Hawthorn*.

BERRY (bacca) a pulpy ſeed-veſſel without valves; in which the ſeeds are naked, as in the *Gooſeberry* or *Elderberry*. Pl. 5. f. 19.

BIENNIAL (biennis) plants or roots; are thoſe which continue alive two years.

BIRDS-FOOTED (pedatus) bearing ſome reſemblance to the feet of land fowl; as the leaves of the *Paſſion Flower*, or the ſeed-veſſel of the *Bird's-foot Trefoil*. Pl. 7. f. 49.

BITTEN (præmorſus) not tapering to a point, or ending in any even regular form, but appearing as if bitten off; as in the root of *Devil's-bit*; and the petals of common and *Marſhmallows*. Pl. 7. f. 18.

BILL (roſtrum) a long awl-ſhaped ſubſtance reſembling the bill of a Wood-cock; as in *Shepherd's-Needle*; or *Crane's-bill*. Pl. 5. f. 15. *(a.)*

BLADDER-SHAPED (inflatus) diſtended like a blown bladder; as is the cup of the *Bladder Campion*, and the bloſſom of the *Figwort*.

BLISTERED (bullatus) when the ſurface of a leaf riſes high above the veins, ſo as to appear like bliſters.

BLOSSOM (corolla) one of the parts of a flower. It may conſiſt of one or more *Petals*; and is formed by an expanſion of the inner bark of the plant. Pl. 4.

BLUNT (obtuſus) oppoſed to *ſharp*, as the leaves of the *Spiked Speedwell*; the cup of the *Convolvulus*; and the Capſule of the *Yellow Rattle*.

BOAT-SHAPED (navicularis) like a little keel-bottomed boat; as are the valves of the ſeed-veſſels of the *Woad* and the *Mithridate*. Pl. 5. f. 13.

BORDER (limbus) the upper ſpreading part of a bloſſom of one Petal; as in the *Primroſe* and *Auricula*. It is ſometimes uſed to ſignify the thin membranaceous part of a ſeed, or ſeed-veſſel. Pl. 4. f. 1. *(b. b.)*

BOWED (arcuatus) bent like a bow.

..... inwards (incurvatus.)

BRISTLES (ſetæ) ſtrong, ſtiff, cylindrical hairs.

BRISTLE-SHAPED (ſetaceus) ſlender, and nearly cylindrical; as the ſtraw of the *leaſt Bullruſh*; the leaves and props of the *Aſparagus*.

BROAD-

BROAD-TOPPED-SPIKE (corymbus) a ſpike wherein each of the flowers ſtands elevated upon its proper fruit-ſtalk, ſo that they all riſe to nearly the ſame height.

Exemplified in the *Pear* and the *Common Bethlem Star*. Pl. 6. f. 7.

BUD (gemma) a protuberance upon the ſtem or branches, generally ſcaly, and gummy or reſinous. It contains the rudiments of the leaves, or flowers, or both, which are to be expanded the following year.

BULB (bulbus) may be conſidered as a *Bud* placed upon the root. It contains the rudiments or embryo of a future plant. Bulbs ſometimes are found upon the ſtem, as in ſome ſpecies of Garlic.

A BULBOUS ROOT (bulboſus) is either

SOLID, as in the *Tulip*. Pl. 11. f. 3.

SCALY, as in the *Lily*. Pl. 11. f. 4. or

COATED, as in the *Onion*. Pl. 11. f. 2.

BUNCH (racemus) a fruit-ſtalk furniſhed with ſhort lateral branches. The *Grape*, the *Currant*, and the *Barberry* are inſtances. Pl. 6. f. 8.

BUNDLE (faſciculus) when ſeveral flowers ſtand on their reſpective fruit-ſtalks, which grow nearly from the ſame point, and riſe to the ſame height; as in the *Sweet William*.

BUNDLED (faſciculatus) LEAVES, when they ariſe nearly from the ſame point and are crowded together; as in the *Larch*. Pl. 9. f. 3. *(f.)*

..... ROOTS; a ſort of tuberous roots in which the knobs are connected without the intervention of threads, as in the *Pæony*.

BUTTERFLY-SHAPED (papilionaceus) from an imaginary reſemblance that ſome bloſſoms bear to that inſect. The *Pea* and the *Broom* furniſh examples. See the introduction to the 17th claſs; and alſo pl. 4. f. 13. 14. 15. 16. 17.

CAPSULE (capſula) a dry hollow ſeed-veſſel, that opens naturally in ſome determinate manner; as at the Side by a ſmall hole in *Orchis* and *Campanula*; horizontally in *Pimpernel*; *longways* in *Convolvulus*; at the bottom in *Arrowgraſs*; or at the top as in moſt plants. See pl. 5. f. 6. 9. 14.

CATKIN (amentum) is a compoſition of flowers and chaff, on a long receptacle, reſembling a Cat's tail. The *Willow*, the *Haſel*, and the *Reedmace*, are inſtances. Pl. 6. f. 12.

CELL (loculamentum) having cells (locularis) a vacuity in the capſule for lodging the ſeed. Capſules have either one cell as in *Primroſe*: two as in *Thornapple*: three as in *Lily*: four as in *Spindletree*: five as in *Rue*: ſix as in *Aſarabacca*, &c. Pl. 3. f. 4.

It alſo ſignifies the vacuity in the tips that contains the duſt.

CENTRAL (flores floſculoſi) LEAVES, thoſe that occupy the middle part of a compound flower; as the yellow ones in the middle of a common Daiſey; pl. 4. f. 24. *(b.)* and it likewiſe is uſed to ſignify the flowers in the middle part of a rundle.

LEAF-

..... LEAF-STALK is fixed not to the baſe, but to the middle part of a leaf, as in the garden *Naſturtium* and *Marſh Pennywort*. Pl. 9. f. 4. *(a.)*

CHAFF (palea) a thin membranaceous ſubſtance growing from a common receptacle to ſeparate the florets from each other, as in *Teaſel*; *Scabious*; *Willow*; *Burdock*.

CHAFFY (aceroſus) LEAVES; the leaves of the *Fir*, the *Yew*, the *Pine*, and the *Cedar* are ſo called. Pl. 9. f. 3. *(e.)*

..... RECEPTACLE, FLOWER, or HUSK, (paleaceus) beſet with a ſubſtance like chaff.

CHANNELLED (canaliculatus) LEAVES; having a deep furrow or channel extending from the baſe to the end.

CHIVE (ſtamen) open the bloſſom of a Tulip or Lily and you will ſee ſix long threads placed round the central pillar, with a tip on the top of each thread. One of theſe threads together with its tip is called a chive. Pl. 3. f. 2. *(b.b.b.b.b.b.)* f. 3. *(h. i.)* f. 6.

CIRCULAR (ſubrotundus) nearly in the form of a circle, as are the leaves of the *Alder*, or the petals of the *Strawberry* and *Hawthorn*. Pl. 7. f. 2.

CIRCUMFERENCE (radius) the part of a circle moſt diſtant from the centre. Thus in a ſhilling or half crown the inſcription is round the circumference. It is uſed in botany to expreſs the florets that are furtheſt from the centre of a compound flower; as the white ones that ſurround the yellow ones in the *Common Daiſie*, or the florets in the outer part of a rundle. Pl. 4. f. 24. *(a. a. a. a.)*

CLAMMY (viſcoſus) adheſive like bird-lime; as are the leaves of the *Alder*; or the ſtalks of *Fraxinella*; and *Gum Ciſtus*.

CLASS (claſſis) ſee the introduction.

CLAW, (unguis) bloſſoms that are compoſed of ſeveral petals, have frequently thoſe petals ſo formed as to admit of two diſtinct names; the claw and the limb. The claw is the lower part, or that next to the baſe: thus if you take a *Pink*, a *Campion*, or a *Wall-flower*, and draw out one of the petals, the lower and the ſlender part by which it was connected, and which was included within the cup, is the part which is called the *Claw*. Pl. 4. f. 11. *(a. a.)*

CLIMBING (ſcandens) a term applied to plants that take the advantage of twining round ſome other body to ſupport and raiſe themſelves; as the *Ivy* and *Honeyſuckle*.

CLOATHING (pubes) every ſpecies of hairineſs on the ſurface of plants. See DOWN; HAIR; WOOL; BRISTLES.

CLOSE (conglomeratus) when a branching fruit-ſtalk bears its flowers cloſely compacted together, but without regularity.

CLOVEN (fiſſus) divided half way down, as are the ſummits of *Ground Ivy* and *Jacob's Ladder*; the petals of *Campion*; and the leaves of wormwood.

..... TIPS; ſee pl. 1. f. 3. *(a. a. a.)*

CLUB-

CLUB-SHAPED (clavatus) thin at the baſe and thicker upwards, as is the fruit-ſtalk of the *Cuckowpint*, and of the *African Marigold*.

CLUSTER (thyrſus) a collection of flowers ſomewhat in an egg-ſhaped form, as thoſe of the *Lilac* and *Butterbur*.

COLOURED (coloratus) when a leaf or cup is any other colour than green; as the floral-leaves of *Golden Saxifrage*.

COMB (coma) a collection of floral-leaves, terminating the flowering ſtem, as in *Sage* and *Crown Imperial*; it is remarkable alſo in the Pine Apple.

COMMON EMPALEMENT (calix communis) including ſeveral flowers: ſee the introduction to the 19th claſs. We have a well-known inſtance in the *Dandelion*, and in all the *Thiſtles*. Pl. 4. f. 20.

..... RECEPTACLE (receptaculum commune) a ſeat for ſeveral flowers or florets included within one common empalement; as is the caſe with moſt of the plants in the 19th claſs. The *Dandelion* is an example. Pl. 4. f. 23. *(a.)*

COMPACT (coarctatus) growing cloſe and as it were preſſed together.

COMPOUND FLOWERS; (compoſiti flores) conſiſt of many florets upon one receptacle or ſeat, and included within one common empalement; as moſt of thoſe in the 19th claſs; a *Thiſtle* is a familiar example. Pl. 4. f. 19. 24. 25. — Sometimes, but with leſs propriety, the flowers that grow in rundles are called compound, as thoſe in the ſecond order of the 5th claſs; of which the Carrot is a well-known inſtance.

..... RUNDLE; (umbella compoſita) when each rundle is divided into other little rundles or rundlets. Pl. 6. f. 9.

..... LEAF; when each leaf-ſtalk ſupports more than one leaf; or when one leaf is inſerted into another, as in *Wood Horſetail*. Pl. 7. f. 47. 49. Pl. 8. f. 52. 53. 54. 55. 56. Pl. 9. f. 3. *(a.)* See alſo *doubly compound*; *triply compound*.

..... BERRY; when one large berry is compoſed of ſeveral ſmall ones, as for inſtance, the *Raſpberry*.

COMPRESSED (compreſſus) a term applied to a cylindrical ſubſtance more or leſs flatted. Thus ſuppoſe a ſtraw to be the cylindrical ſubſtance; if this be preſſed between the thumb and finger ſo as to flatten it, we ſhould then ſay it was compreſſed. The cup of the *Gilliflower* or the *Wallflower* is compreſſed, and ſo is the bloſſom of the *Rattle*, and the pod of the *Ladyſmock*.

..... LEAF; one that is thicker than it is broad.

CONCAVE (concavus) hollowed out like a bowl; as are the petals of the *Cherry* or the *Hawthorn*; and the leaves of *Broad-leaved Plantain*.

CONE (ſtrobilus) a ſpecies of ſeed-veſſel exemplified in the *Pine* and *Fir*. Pl. 5. f. 18.

CONGREGATED (glomeratus) when ſeveral little ſpikes or panicles are crowded together ſomewhat in a globular form. Examples are not uncommon among the Graſſes; *Rough Cocksfoot* is one.

CONICAL

CONICAL (conicus) the ſhape of the *Alpine Strawberry*; nearly reſembling the form of a ſugar loaf.

CONNECTED (adnatus) *Leaves* or *Props*; thoſe that have their upper ſurface at the baſe growing to the ſtem or branch.

CONTIGUOUS (adpreſſus) when a leaf, branch, or ſeed-veſſel riſes up ſo perpendicularly as to ſtand almoſt parallel and cloſe to the ſtem. The pods of the *Common Muſtard* furniſh an example; and the leaves of the *Creſs Mithridate*. Pl. 9. f. 6.

CONVEX (convexus) oppoſed to concave. Riſing like the ſurface of a globe. The receptacle of the garden *Tanſey* is convex.

CREEPING (repens) STEM; creeping along the ground, and ſending forth little roots; the *Violet* and *Ivy* are inſtances. Pl. 10. f. 8.

..... ROOT; as in the *Spearmint*. Pl. 10. f. 7.

CRESCENT-SHAPED (lunularis) (lunatus) ſhaped like a new moon; as are the tips of the *Strawberry*.

..... LEAF. Pl. 7. f. 11.

CRESTED (criſtatus) flowers, furniſhed with a tuft or creſt, as is the common *Milkwort*.

CROOKED (cernuus) FRUIT-STALK; ſo much bent that the flower faces the earth, and ſo ſtiff that it cannot be ſtraightened without breaking: as in *Crown Imperial*.

CROSS-PAIRS (decuſſatus) when leaves grow in pairs, and each pair points in a different direction to the pair next above or below it. Thus, if one pair point Eaſt and Weſt, the pair next below it point North and South; the third pair croſſes the ſecond, the fourth the third, and ſo on. Pl. 9. f. 1.

CROSS-SHAPED (cruciatus) (cruciformis) FLOWERS; are thoſe which have four petals diſpoſed in the form of a croſs. The *Gilliflower Candytuft*, and *Cabbage*, are familiar inſtances. Pl. 4. f. 11. f. 12.

CROWNED (coronatus) SEED; is a ſeed to which the cup of the flower adheres, as in *Teaſel*; or it is a ſeed furniſhed with a feather, as in *Dandelion*. Pl. 4. f. 22. f. 27.

..... BERRY; is a berry with the flower-cup adhering; as in the *Honeyſuckle*.

CUP (perianthium) a ſpecies of empalement contiguous to the other parts of the flower. It either includes one flower, as in the *Convolvulus* and *Gilliflower*; or ſeveral florets, as in the *Sunflower* and *Daiſie*. Pl. 3. f. 1. f. 10. f. 5. *(a.)* Pl. 4. f. 7. *(c.)* f. 12. *(b.)* f. 13. 14. 18. *(a. a. a.)*

..... DOUBLE (calyculatus.)

CURLED (criſpus) LEAVES; as in *Endive* and *Curled Mint*. Pl. 8. f. 67.

CURVED (reclinatus) bent back, ſo that the extremity is lower than the baſe. Pl. 9. f. 5. *(e. e.)*

CUT-ROUND (circumſciſſus) when a ſeed-veſſel does not open longways, as is generally the caſe, but in a circle ſurrounding it, like a ſnuff-box, as in *Pimpernel*. Pl. 5. f. 9.

CYLINDRICAL (teres) the form of the trunk of a tree. Pl. 8. f. 68.

..... STRAW; *Bullruſh*.

..... STALK; *Great Plantain*.

STEM;

..... STEM: *Aſparagus.*
..... LEAF; *Wild Garlic*; *Onion.*
..... CUP; *Pink.*
..... CATKIN; *Reedmace.*

DECIDUOUS (deciduus) LEAVES; thoſe that fall off at the approach of winter.

..... CUP; falling off before the bloſſom; as does that of the *Thorn-apple*, the *Cabbage*, the *Ladyſmock*, and the *Poppy.*

..... SEED-VESSEL; falling off before it opens, as in the *Sea Rocket* and *Woad.*

DECLINING (declinatus) bent like a bow, with the arch downwards; as the ſeed-veſſel of the *Water Creſſet*, the threads of the *Bugloſs.* See the lower chive in pl. 1. f. 11. f. 12.

DENTED (retuſus) a blunt leaf, &c. with a dent or blunt notch at the end; as in the *Broad-leaved Sea Heath.*

DEPRESSED (depreſſus) when the ſurface of a leaf, &c. is in a ſmall degree concave — preſſed down — flatted.

DIAMOND-SHAPED (rhombeus) applied to leaves that reſemble the figure of a diamond as painted on cards.

DIMPLED (umbilicatus) having a little hollow dot; as in the fruit of the *Barberry.*

DISTANT (diſtans) far aſunder; as the chives of the *Mint*; or the whorls of the flowers in the *Corn Mint.*

DISTENDED (ventricoſus) as the cup of the *Roſe*, or the under part of the bloſſom of the *Foxglove.* Pl. 4. f. 4.

DISTINCT (dioecia) a term applied to chives and pointals when they are not only found in different flowers, but theſe flowers muſt likewiſe grow upon different plants. See the 22d claſs. Thus in the *Yew Tree*, if you find it in flower, and one of the flowers is furniſhed with chives; all the flowers upon that particular tree have *only* chives and no pointals; but if you find a flower with a pointal and no chives, then all the flowers upon that tree will be found equally deſtitute of chives. Pl. 1. f. 22.

DIVERGING (divergens) ſpreading wide from the ſtem, almoſt horizontally. This term is oppoſed to *Compact.*

DIVISIONS. See the next article.

DIVIDED (partitus) applied to a leaf, a cup, or a petal; it ſignifies that it is parted more than half way down; as the petals of *Chickweed*; the cup of *Comfrey*, or *Borrage.* Pl. 7. f. 28.

DOTTED (punctatus) marked with little hollow dots; as are the leaves of the *Sea Chamomile*; and the receptacle of ſome of the compound flowers. Pl. 4. f. 23.

DOUBLED *together* (conduplicatus) as are the leaves of the *Black Cherry* before they unfold.

DOUBLE (didymus) applied to the tips of ſeveral flowers, when upon one thread there are two tips united, like a double nut; as in the *Ranunculus*, *Anemone*, *Celandine Plumb*, *Cherry.* Pl. 3. f. 6. *(h.)*

..... CUP; (duplex) when the cup of a flower hath another outer

outer cup ſurrounding it, as in the *Marſhmallow*, and *Hollyhock*.

..... SEED-BUD; when two ſeed-buds are united together, as in *Gooſe-graſs* or *Cleavers*.

DOUBLY-COMPOUND (decompoſitus) LEAVES, having the primary leaf-ſtalk divided, ſo that each diviſion forms a compound leaf. They are of three different kinds.

1. TWINFORK; (bigeminus) when a forked leaf-ſtalk bears ſeveral leafits at the end of each diviſion or fork. Pl. 10. f. 4.
2. DOUBLY THREEFOLD; (bi-ternatus) when a leaf-ſtalk with three diviſions bears three leafits upon the end of each diviſion. Pl. 8. f. 57.
3. DOUBLY-WINGED; (duplicato-pinnatus) (bi-pinnatus) a leaf-ſtalk having lateral ribs, and each of theſe ribs being a winged leaf; example *Tanſey*, *Yarrow*. Pl. 8. f. 56.

For leaves *more than doubly compound*, ſee TRIPLY COMPOUND.

DOWNY (tomentoſus) covered with a whitiſh down: as the leaves of the *Marſhmallow* and *Great Mullein*.

..... SEEDS; (plumoſus) the feather of ſeeds is ſometimes downy, as in *Goats-beard*. Pl. 4. f. 22. *(l.)* Pl. 6. f. 2. *(b.)*

DUST (farina. pollen) a fine powder contained in the tips of flowers: it is too minute for the naked eye to examine, but by the aſſiſtance of a microſcope, it appears very different in different plants: Thus in the *Bloody Geranium* it is a perforated globule; in the *Marſhmallow* like the wheel of a watch; in the *Panſie* it is triangular; in the *Narciſſus* kidney-ſhaped; and in *Comfrey* the globules are double. Pl. 3. f. 5. *(f.)* a tip diſcharging its duſt; f. 8. a particle of duſt greatly magnified.

DUSTED (pulveratus) ſome plants appear as if covered with a kind of duſt or powder. e. g. the *Engliſh Mercury*.

EAR-SHAPED (auriculatus) ſomewhat reſembling a human ear.

ELLIPTICAL. The ſame as *oval*.

EGG-SHAPED (ovatus) ſignifies a ſhape reſembling the ſolid ſubſtance of an egg as the ſeed-bud of *Jacob's Ladder* and the ſeeds of *Fennel*; or it implies only the form of an egg if divided longways, as in the leaves of the *Beech-tree* or *Peppermint*. Pl. 7. f. 3.

EMBRACING (amplexicaulis) *the* STEM; when the baſe of a leaf half ſurrounds the ſtem, as in *Solomon's Seal*, *Poppy*, and *Borrage*. Pl. 9. f. 4. *(f.)*

EMPALEMENT (calyx) is a continuation of the outer bark of a plant conſtituting a part of the flower. It is either a

..... CUP; (perianthium) as in *Primroſe*; pl. 3. f. 10.

..... a FENCE; (involucrum) as in *Carrot*; pl. 6. f. 9. *(c. c.)*

..... a CATKIN; (amentum) as in *Haſel*; pl. 6. f. 12.

..... a VEIL; (calyptra) as in ſeveral *Moſſes*; pl. 1. f. D. *(a.)*

..... a HUSK; (gluma) as in *Oats*; pl. 2. f. 21. *(a. a.)* f. 1. *(a. a.)*

..... a SHEATH; (ſpatha) as in *Narciſſus*; pl. 3. f. 9. *(a. a.)* or a RUFFLE;

..... a RUFFLE; (volva) as in ſeveral Funguſſes. Pl. 1. f. H. *(c.)* See thoſe terms.

ENTIRE (integer) LEAF or PETAL, this term is oppoſed to cloven, gaſhed, indented, &c. but it does not ſignify that it is not ſerrated or ſcolloped. When a leaf is ſaid to be very entire (integerrimus) we underſtand that it is not even ſcolloped or ſerrated. The leaves of a Nettle are *entire*, but thoſe of a Lilac are *very entire*. Pl. 7. f. 31. 35. entire leaves. f. 39. 40. very entire leaves.

EQUAL (æqualis) ſometimes ſignifies regular; all alike; as the bloſſoms of *Angelica*. The florets forming the compound flowers in the firſt order of the 18th claſs, are ſaid to be equal; that is, all are alike in being equally furniſhed both with chives and pointals.

ESSENTIAL CHARACTER (character eſſentialis) is a ſingle circumſtance ſerving to diſtinguiſh a ſpecies or a genus from every other ſpecies or genus. Thus the genus *Crowfoot* (Ranunculus) is diſtinguiſhed from other genera by the honeycup at the baſe of each petal; and the *Colewort* is known from all the other genera in the ſame natural order, by the four longer threads being forked at the top.

EVEN (lævis) SURFACE, level, regular; in oppoſition to ſcored, furrowed, or other inequalities, occaſioned by deficiency of ſubſtance.

EXCRESCENCE (apophyſis) a ſubſtance growing from the ſeat of the flower in ſome of the Moſſes.

EXPANDING (patens) ſtanding in a direction between upright and horizontal; as the petals of the *Strawberry*, the branches of moſt plants, and the leaves of the *Brooklime Speedwell*. Pl. 9. f. 5. *(c. c.)*

EYE (hilum) the external ſcar upon a ſeed by which it was fixed to the ſeed-veſſel; it is very remarkable in a *Bean*. Pl. 6. f. 3. *(e.)*

FEATHER (pappus) the downy or hairy ſubſtance affixed to the ſeeds of ſome plants, enabling the wind to ſcatter them abroad. The feather of the *Goats-beard* is downy: that of the *Sowthiſtle* hairy. Pl. 4. f. 22. *(l.)* pl. 6. f. 2. *(a. b.)*

FENCE (involucrum) the empalement of a rundle: it is placed at ſome diſtance from the flowers. It is either *General* or *Partial*. The *Carrot* furniſhes inſtances of both. The *General* Fence is placed under the rundle; the *Partial* under the rundlets. Pl. 6. f. 9. *(c. c.) (d. d. d. d.)*

FENCE *partial* (involucellum) the fence ſurrounding the baſe of a rundlet. Pl. 6. f. 9. *(d. d. d. d.)*

FERTILE FLOWERS (fertiles vel feminei flores) thoſe that produce ſeed capable of vegetation; as is very generally the caſe in the flowers which have both chives and pointals. Flowers that have only chives never can produce ſeeds; and flowers that have only pointals *muſt* be barren, if they are ſo ſituated as to be out of the duſt from the tips of the barren flowers: In ſome inſtances they will indeed produce ſeeds to all appearance perfect, but theſe ſeeds will never vegetate.

FIBROUS (fibroſus) ROOTS; compoſed of ſmall threads or fibres. Pl. 10. f. 7.

FIDDLE-

FIDDLE-SHAPED (panduriformis) the ſhape of a leaf as in one ſpecies of Dock, ſuppoſed to reſemble a violin.

FINGERED (digitatus) a ſpecies of compound LEAVES, reſembling the expanded fingers of a man's hand. e. g. thoſe of the *Wild black Hellebore*, *Lupine*, and *Horſe Cheſnut*. Pl. 7. f. 48.

..... they may be IN PAIRS (binatus) with two terminating leafits. Pl. 7. f. 50.

..... IN THREES (ternatus) with three terminating leafits. Pl. 7. f. 51.

..... IN FIVES (quinatus) with five terminating leafits.

FIRM (compactus) applied to the texture of a leaf.

FLESHY *Seed-veſſel* (Pomum) covering a Capſule which contains the Seeds, as in the Pear or Apple. Pl. 5. f. 20.

..... LEAF, or ROOT, (carnoſus) as the leaves of *Sedum daſyphyllum*.

..... more ſolid than pulpy; as the fruit of the *Apple*; the root of the *Turnep*; and the leaf of the *Round-leaved Stonecrop*.

FLOATING (natans) applied to aquatic plants, whoſe leaves or flowers float upon the ſurface of the water: e. g. *Waterlily*.

FLORAL-LEAVES (bracteæ) differ in ſhape or colour from the other leaves of the plant; they are generally placed on the fruit-ſtalk, and often ſo near the flower as in ſome inſtances to be eaſily miſtaken for the cup; but the cup dries or withers when the fruit is ripe, whereas the floral leaves endure as long as the other leaves of the plant. Examples of floral leaves may be ſeen in the *Panſie*, the *Limetree*, the *Hellebore*, the *Paſſion-flower*, the *Sage*, the *wild Marjoram*; and many others. Pl. 9. f. 8. *(a. a.)*

FLORET (floſculus) a little flower, one of the ſmall flowers compoſing a compound or incorporated flower. See the introduction to the 19th claſs. They are TUBULAR; that is, formed of a tube cloven into five parts at the border, as in *Tanſey*; or NARROW, when the bloſſom is long and ſtrap-ſhaped, as in *Dandelion*. In the *Daiſie* and *Sunflower* the florets in the centre are TUBULAR, and thoſe in the circumference NARROW, or RADIATE. Pl. 4. f. 21. f. 24. f. 26. In the ſecond order of the fifth claſs the florets compoſing the rundles are compoſed of five petals. When the petals are all of the ſame ſize and ſhape the florets are ſaid to be EQUAL; as in *Angelica* and *Celery*; but when the outer petals are larger than the others, the florets are ſaid to be RADIATE; as in *Shepherds Needle* and *Carrot*.

FLOWER (flos) a temporary part of a plant appropriated to the production of ſeeds. It is compoſed of ſeven parts; the EMPALEMENT; the BLOSSOM; the CHIVES; the POINTALS; the SEED-VESSEL; the SEEDS; and the RECEPTACLE. To theſe perhaps we may add an eighth, *viz.* the HONEY-CUP. It is not neceſſary that all theſe parts ſhould be preſent to conſtitute a flower. IMPERFECT flowers

flowers are deficient in one or more of the parts. The *Hyacinth* and *Tulip* have no cup. The *Miſletoe*, *Gale*, *Hop*, *Yew*, *Dog's Mercury*, *Nettle*; and the flowers of the plants bearing catkins, have no bloſſoms. The *Ground Ivy*, the *white* and *red Deadnettle*, and all the plants in the firſt order of the fourteenth claſs have no ſeed-veſſels.

FORKED (furcatus) (dichotomus) dividing into forks, as the branches of moſt of the *Spurges*; the fruit-ſtalks of the *Common Calamint*, and the *Pink*; the *Shaft* of the *Currant*. Pl. 10. f. 4.

FOUR-CORNERED (tetragonus) as the ſtem of the *Deadnettle*.

FRINGED (ciliatus) as the bloſſom of the *Buckbean* and the *Garden Naſturtium*; or the leaves of the *Croſs-leaved Heath*.

FRUIT (fructus) a part of a flower, conſiſting of the SEED-VESSEL, the SEED and the RECEPTACLE.

FRUIT-STALK (pedunculus) a part of a ſtem or branch, bearing flowers but not leaves. Pl. 9. f. 5. *(m.)* f. 8. *(c.)* pl. 6. f. 7. *(a. a. a. a. a. a.)*

FUNNEL-SHAPED (infundibuliformis) a bloſſom of one petal; the lower part of which is tubular, the upper part conical, as in *Hound's tongue*, *Bugloſs*, *Cowſlips*. Pl. 4. f. 7.

..... CUP; as in *Thrift*.

FURROWED (ſulcatus) marked with deep lines running lengthways.

GAPING (ringens) (perſonatus) BLOSSOMS; ſo called from the reſemblance to a gaping mouth. *Toadflax* and *Snapdragon* are inſtances. Pl. 4. f. 8. 9. 10.

GASHED (lobatus) divided nearly half way down, into lobes that are convex at the edges and diſtant from each other; as the leaves of *Ladies Mantle* and *Water-elder*. Pl. 7. f. 19.

GENERAL FENCE (involucrum) a ſpecies of empalement ſurrounding a general rundle, as in a *Carrot*, *Angelica*, or *Lovage*. It conſiſts of one, or more leaves. Pl. 6. f. 9. *(c. c.)*

GENUS } See the introduc-
GENERA } tion.

GENERIC CHARACTER conſiſts of an accurate deſcription of the different parts compoſing a flower; and all thoſe plants whoſe flowers agree with this deſcription, are ſpecies of the ſame genus. (See the introduction.)

GILLS (lamellæ) the thin plates on the under ſide of the Hats of the Funguſſes, remarkable in Muſhrooms.

GLANDS (glandulæ) ſecretory veſſels, differently ſituated in different plants. In the *Willow* they are placed at the margins of the leaves; in the *Bird's Cherry* and *Almond Tree* at the baſe of the leaves; in *Butterwort* and the *Sundew* upon the leaves, and in the *Plumb* on the inner ſide of the cups. Pl. 10. f. 6. *(c. c.)* pl. 11. f. 1. *(a. a. a. a.)*

GLASS-SHAPED (cyathiformis) tubular, but dilated towards the top like a drinking glaſs; as the cup of *Jacob's-ladder*; the ſummits of the *Field Southern-wood*, the honey-cup of the *Nettle*.

GLOBULAR

GLOBULAR (globoſus) like a round ball; as the cup of the *Burdock*; the ſeed-veſſel of the *Flax*; the ſeed of the *Pea*; the capſule of the *Poppy*. Pl. 5. f. 5.

GLOSSY (nitidus) ſmooth and ſhining; as the ſeedbud of the *Sweet-briar*; the leaves of the *Holly*, *Ivy*, and *Box*.

GNAWED (eroſus) as when a leaf is indented, and appears as if it had been gnawed or bitten at the edges. Pl. 7. f. 21.

GRANULATIONS (acinis) the ſmall berries which join together and compoſe a large one, as in the *Mulberry*, *Blackberry*, or *Raſpberry*.

HAIR-LIKE (capillaris) ſlender, undivided, and cylindrical; as the threads in *Plantain*, *Raygraſs*, *Reed*, and moſt of the Graſſes.

HAIRS (pili) are ſuppoſed to be ſecretory ducts.

HALBERD-SHAPED (haſtatus) as the floral-leaves of the *Panſie*; the leaves of *Sheeps Sorrel* and *Cuckowpint*. Pl. 7. f. 15.

HAND-SHAPED (palmatus) reſembling a human hand with the fingers expanded; as the leaves of *White Briony*; *Paſſionflower*; and the roots of *Spotted Orchis*. Pl. 7. f. 22.

HAT (pileus) the upper broad expanding part of Funguſſes. In Muſhrooms the hat is often called the flap. Pl. 1. f. H. *(c.)*

HEADED (capitulus) STALK; when a ſtalk ſupports one compact knob or head of flowers upon its extremity, as in *Thrift*.

HEADS (capitatus) of FLOWERS; when flowers grow together in compact knobs; as in *Peppermint*, *Watermint*, *Common Thyme*.

HEART (corculum) that part of a ſeed which is the future plant in miniature. Pl. 6. f. 3. *(b.)*

HEART-SHAPED (cordatus) a term uſed to expreſs the form of a petal, a leaf, &c. the leaves of *Waterlily*, *Deadnettle*, *Burdock*, and *Violet*, are heart-ſhaped. Pl. 7. f. 10.

HELMET (galea) a term to expreſs the upper part of a gaping bloſſom, which bears ſome reſemblance to a helmet. See the introduction to the 20th claſs.

HEMISPHERICAL (hemiſphericus) in the ſhape of half a globe; as the cup of the *Tanſey*.

HERBACEOUS (herbaceus) STEM; one that is ſucculent and tender, in oppoſition to one that is woody: it periſhes annually down to the root. The *Pea* and the *Nettle* are inſtances. The ſtem of the *Gilliflower* is ſomewhat woody.

HONEYCUP (nectarium) a part of a flower deſigned to ſecrete and contain honey. In flowers that have only one petal, the tube of the bloſſom contains the honey; or elſe it is contained in a ſort of horn-ſhaped appendage, as in the *Butterwort*. In the *Violet*, the *Larkſpur*, the *Columbine*, and the *Fumitory*, it is a ſort of ſpur, or horn. In the *Ranunculus*, the *Lily*, and the *Crown Imperial*, it is a hollow cavity in the ſubſtance of the petals. In the *Daffodil* and *Hellebore* it is tubular. In the *Fraxinella* and *Campanula* it is fixed to the chives; in the *Gilliflower*, and the *Turnep*, it is placed

placed on the ſeed-bud in form of a gland. Its ſtructure is no where more ſingular or beautiful than in the *Graſs of Parnaſſus*. Pl. 5. f. 1 *(a.)* f. 2. *(a. a. a. a. a.)* f. 3. *(a. a)* f. 4. *(a.)*

HOODED (cucullatus) a term applied to leaves that are rolled up, as the grocers roll paper to put ſugar or ſpices in, like a cone; as the leaves of *Wall Pennywort*.

HORIZONTAL (horizontalis) a leaf or branch that grows from the ſtem pointing to the horizon, and parallel to the ſurface of the earth. Pl. 9. f. 5. *(d. d.)*

HORN-SHAPED (cornutus) like the honeycup of the *Larkſpur*. Pl. 5. f. 4. *(a.)*

HUNCHED (gibbus) ſwelled out, as the under part of the bloſſom of the *Foxglove*, the *Bloſſom* of the *Honeyſuckle*; the cup of the *Turnep* and the *Wallflower*. Pl. 4. f. 12. *(b.)*

HUSK (gluma) the empalements and the bloſſoms of graſſes are called the huſks; they are thin, dry, and ſemi-tranſparent, like chaff; a huſk conſiſts of one or more leaves, called *Valves*, and, when contiguous to the other parts of the flower, incloſing the chives and pointals, anſwers the purpoſe of a *Bloſſom*: but, when placed on the outer ſide, and incloſing the inner valves, as well as the chives and pointals, it is called the empalement. This kind of empalement frequently contains ſeveral florets. See the plate of *Graſſes*.

JAGGED (laciniatus) LEAVES; thoſe that are variouſly divided into lobes, and theſe lobes again divided in an irregular manner. The *Panſie* is an inſtance. Pl. 7. f. 24.

IMPERFECT (incompleti) FLOWERS; thoſe that want either the cup or the bloſſom. The *Tulip* wants a cup: and the *Nettle* is without a bloſſom.

INCORPORATED (aggregatus) when a number of little flowers or florets, are ſo diſpoſed as to form one compound flower; all of them either incloſed within one common empalement, or ſituated upon one common receptacle; ſo that none of them can be taken away without deſtroying the uniformity of the whole. Thus the flowers of *Thrift*, *Parſley*, *Teaſel*, *Scabious*, *Daiſie*, are incorporated; ſeveral ſmall flowers, or florets, combining to form one large flower.

INDENTED (ſinuatus) LEAF; the edges of an indented leaf are hollowed, or deeply ſcolloped, the lobes ſtanding aſunder as if part of the leaf had been cut out. The leaf of the *Turnep* is a familiar example. See alſo pl. 7. f. 25.

INDIVIDUAL (proprius) BLOSSOM; the bloſſ. belonging to a ſingle floret in a compound flower. Thus in a *Carrot*, each floret is compoſed of five petals, which conſtitute the bloſſom of that individual floret. The individual bloſſoms in *Tanſey* are all tubular; in *Dandelion* they are all long and ſtrap-ſhaped. In the *Sunflower* they are tubular in the centre and ſtrap-ſhaped in the circumference. Pl. 4. f. 21. f. 26.

INFLEXIBLE (rigidus) ſtiff; not eaſily bending: oppoſed to LIMBER.

INTERRUPTED

INTERRUPTED (interruptus) broken in its regular form; as the ſpike of *Wood Betony*; the leaves of ſome ſpecies of the *Ladies finger*. A ſpike may be interrupted by the intervention of leaves, or ſmaller ſets of flowers: a winged leaf may be interrupted by the intervention of ſmaller pairs of little leaves. Pl. 8. f. 55.

INVERSELY-HEART-SHAPED (obcordatus) with the point of the heart next to the ſtem; as the ſeed-veſſel of the *Shepherds Purſe*; the petals of *Geranium* or *Marſhmallow*; and the leaves of ſome of the *Trefoils*. Pl. 8. f. 69.

JOINTED (articulatus) STEM; a wheat-ſtraw is an inſtance familiar to every one. Pl. 10. f. 3.

..... LEAVES; as in the *Indian Fig*. Pl. 9. f. 3. *(a.)*

IRREGULAR (irregularis) a term term applied to compound flowers wherein the florets are not uniform; as in the *Carrot* and *Coriander*.

..... BLOSSOM. See REGULAR.

KEEL (carina) a name given to the lowermoſt petal in a butterfly-ſhaped bloſſom, from its ſuppoſed reſemblance to the keel of a ſhip: ſee the introduction to the 17th claſs. See alſo Pl. 4. f. 17. and f. 13. *(d.)*

KEELED (carinatus) bent like the keel of a ſhip or boat: as the ſhaft of the *Pea*; the empalement of *Canary Graſs*. Pl. 2. f. 10. *(a. a.)*

KIDNEY-SHAPED (reniformis) as the ſeed of the *French Bean*, the tips of the Mallow; the leaves of *Ground Ivy*; *Golden Saxifrage*, and *Meadowbout*. Pl. 7. f. 9.

KNEE-JOINTED (geniculatus) when a ſtraw or ſtem is a little bent at the joints. Pl. 2. f. 21, the Awns.

KNOB (capitulum) See HEAD.

LACTESCENT (lacteſcens) abounding with a milky juice.

LAMINATED (equitans) when the flat ſurfaces of leaves lye cloſe one upon another.

LATERAL (lateralis) BRANCHES, growing from the ſides of the ſtem; oppoſed to *terminating*.

..... FLOWERS; thoſe that grow from the ſides of the ſtems or ſtalks; thus the ſpikes of flowers in the *Common Speedwell* grow on lateral fruitſtalks; or on fruit-ſtalks proceeding from the ſides of the ſtem.

LEAF (folium) the green leaves are the lungs of plants, and the organs of motion.

LEAF-STALK (petiolus) the footſtalk of a leaf. It ſupports the leaves but not the flowers. In the *Great Periwinkle* the leaf-ſtalks are very long. Pl. 9. f. 4. *(a. b. c.)*

LEAFY (foliaceus) furniſhed with leaves.

..... CUP; (auctus) when the baſe of a cup is ſurrounded by a ſeries of leaves, different from thoſe which form the cup.

..... SEED; a ſeed that is ſurrounded by a thin leafy edge, as in *Cow's Madnep*.

LEATHER-LIKE (coriaceus) tough and pliable like leather; e. g. the cup of the *Corn Cockle*, and moſt of the plants in the third diviſion of the 24th claſs.

LEVEL (faſtigiatus) when ſeveral branches or fruitſtalks grow to equal heights, ſo as to form a flat ſurface at the top; as in the flowers of the *Sweet William*.

LID (operculum) a cover to the tips of ſeveral of the Moſſes; as in the *Bogmoſs*. Pl. 1. f. D. *(b.)*

LIMB (lamina) the upper part of a petal, in bloſſoms compoſed of more than one regular petal. Thus in the *Wall-flower*, the upper flat broad part of the petals is called the limb: the lower ſlender part included within the cup is called the claw. Pl. 4. f. 11. *(b. b. b. b.)* f. 12. *(a. a. a. a.)*

LIMBER (flaccidus) FRUITSTALK, bending with the weight of its own flowers.

LINE (linea) the breadth of the white part at the root of the finger nail; about the tenth of an inch.

LIP (labium) the upper or under diviſion of a gaping bloſſom. The *Deadnettle* and the greater part of the plants in the 14th claſs furniſh examples. See the introduction to that claſs. See alſo pl. 4. f. 8. f. 9. and f. 10.

LITTLE FRUIT-STALK (pedicellus) the little foot-ſtalk that ſupports an individual flower, when there are ſeveral flowers upon one common fruit-ſtalk. Pl. 6. f. 7. *(a. a. a. a. a. a.)*

LOBES (lobum) the diviſions of a *gaſhed* leaf; ſee GASHED. The lobes are rounded at the edges, and ſtand diſtant from each other. The leaves of the *Hop*, *Anemone*, *Hepatica*, and *Sycamore* furniſh examples. Pl. 7. f. 17. f. 19.

LONG (longus) a cup is ſaid to be long, when it is equal in length to the tube of the bloſſom.

LOPPED (truncatus) appearing as if cut off with a pair of ſciſſors: the leaves of the *Great Bindweed* are lopped at the baſe, the petals of the *Periwinkle* are lopped at the end. Pl. 8. f. 63.

LYRE-SHAPED (lyratus) as the leaves of *Herb-Bennet*. Pl. 8. f. 62.

MATTED (cæſpitoſus) thickly interwoven together, as the fibres in turf-bogs.

MEMBRANACEOUS (membranaceus) thin, ſkinny, and tough.

..... STEM; when the edges of the ſtem are bordered with a thin leafy ſubſtance, as in *Water Figwort* and *Broad Leaved Peaſe Everlaſting*.

MOUTH (faux) the upper part of the tube, in bloſſoms conſiſting of a ſingle petal; as *Borrage*, *Houndstongue*, *Deadnettle*. Pl. 4. f. 9. *(d. d.)*

NARROW (ligulatus) the florets in ſome ſpecies of compound flowers are tubular at the bottom, but flat and narrow like a ſtrap or fillet at the top. In *Dandelion* the florets are all narrow: in the common *Daiſie* the florets in the circumference only, are narrow. Pl. 4. f. 10. f. 21. f. 24.

NAKED (nudus) OR BARE; deſtitute of leaves; as the ſtalk of the *Tulip* or *Cowſlip*.

..... MOUTH; when the mouth of the tube of a bloſſom is not cloſed by valves or hairs. The mouth of the bloſſom of *Borrage* is cloſed by five valves, or teeth: but

but that of *Gromwell* is open and *naked*.

..... RECEPTACLE; neither chaffy nor hairy; as that of the *Daiſie*.

..... LEAVES. Leaves deſtitute of hairs.

NODDING (nutans) FLOWER; when the fruit-ſtalk is bent near the end, as in the *Chequered Daffodil*, *Narciſſus* and *Jonquil*. Pl. 3. f. 9.

NOTCHED (emarginatus) AT THE END; as the petals of the *Small Campion* and *Dove's-foot Crane's-bill*; the little leaves of *Vetch*; the leaves of the common *Maple*. Pl. 7. f. 16. 36.

NOTCHED (runcinatus) LEAVES. The edges cut ſomething like the teeth of a large timber ſaw. *Dandelion*, *Broad-leaved Watercreſs*, *Long-rooted Hawk's-eye*, and *Smooth Succory Hawk-weed*, are examples.

NUT (nux) a ſeed covered by a hard woody ſhell; e. g. the *Haſel Nut*. This woody ſhell is ſometimes covered by a ſoft pulpy or fleſhy ſubſtance as in a Peach or Apricot, and then it is called a ſtone. Pl. 5. f. 21. *(b. b.)*

OBLONG (oblongus) longer than broad, and rounded at the ends; as the leaves of the *Daiſie*; the tips of the *Honeyſuckle*. Pl. 7. f. 5.

OPEN (patulus) ſtanding wide.

OPPOSITE (oppoſitus) growing on the oppoſite ſides of the ſtem, but at the ſame height from the ground, as the leaves of the *Nettle*. In pl. 9. f. 5. all the leaves are oppoſite.

OVAL (ovalis) as the leaves of of box. Pl. 7. f. 4.

PAIRS (binatus; geminus) leaves, or fruit-ſtalks, ſometimes grow in pairs. Pl. 7. f. 50.

PALATE (palatum) the inner part of the mouth of gaping bloſſoms. Pl. 4. f. 10. *(c.)*

PANICLE (panicula) an aſſemblage of flowers growing without any very regular order, upon fruit-ſtalks that are variouſly ſubdivided; e. g. *Oats*. Pl. 6. f. 6. It is ſaid to be

..... SPREADING; when the partial fruit-ſtalks diverge and ſtand wide aſunder as in the *Common* and *Reed Meadowgraſs*.

..... COMPACT; when they ſtand near together, as in the *Sheep's Feſcue*, and *Purple Hairgraſs*.

PANICLED (paniculatus) BUNCH an aſſemblage of flowers partaking the properties of a panicle and a bunch. See thoſe terms. *Golden Rod* may ſerve as an example.

..... SPIKE; an aſſemblage of flowers partaking the properties of a panicle and a ſpike; as the *Wall Feſcue* and the *Manured Canary Graſs*, in which the collections of florets reſemble a ſpike in their general appearance, but the florets are furniſhed with fruit-ſtalks, ſhorter than themſelves.

PARASITICAL (paraſiticus) VEGETABLES; not taking root in the earth, but growing upon other vegetables. Thus *Miſletoe* is found to grow upon the Apple Tree, the Pear, the Lime, the Elm, the Poplar, the Hawthorn and the Buckthorn, but never upon the ground.

PARTIAL (partialis) belonging to a part, not to the whole.

..... FENCE. Pl. 6. f. 9. *(d. d. d. d.)*

PARTITION (diſſepimentum) the ſubſtance dividing ſeed-veſ-

ſels into different cells. Thus the Seed-veſſel of *Jacob's Ladder* is divided into three cells; and if you cut a Lemon acroſs, you will plainly ſee the partitions that divide it into nine cells. See alſo pl. 5. f. 12. *(b. b.)* f. 14. *(b. b. b. b.)*

PENCIL-SHAPED (pencilliformis) like a camel-hair pencil; as the ſummits of *Millet*, or the appendages to the bloſſoms of the *Meadow Milkwort*. Pl. 2. f. 11. *(c. c.)*

PENDANT (pendulus) hanging down; as the bunches of the *Red Currant*; the cones of the *Scotch Fir*; the flowers of the *Columbine*.

PERENNIAL (perennis) continuing for ſeveral years.

PERFECT (completus) FLOWER, having both a cup and a bloſſom.

PERFORATED (perfoliatus) LEAVES; when the ſtem ſeems to go through the leaves; as in the *Round-leaved Thoroughwax*. Pl. 9. f. 4. *(g.)*

PERMANENT (perſiſtens) CUP, remaining till the fruit is ripe; as in *Borrage*; *Currant*; *Pink*; and *Deadnettle*.

PETALS (petalum) the leaves which conſtitute the bloſſom are called PETALS, to diſtinguiſh them from the other leaves of the plant. See Pl. 3. f. 2. *(a. a. a. a. a. a.)* Pl. 4. f. 12. *(a. a. a. a.)*

PILLAR (ſtipes) the cylindrical ſubſtance that ſupports the hat of a Fungus, e. g. the *Common Muſhroom*: alſo the little ſhaft upon which the feather of ſeeds is placed, as in *Dandelion*. Pl. 1. f. H. *(b.)* Pl. 4. f. 22. *(i.)* Pl. 6. f. 2. *(d.)*

PIMPLED (papilloſus) beſet with dots or pimples.

PITH (inanis) a ſoft ſpongy ſubſtance filling up the cavity in the ſtems of ſome plants; as in the *Ruſh* and the *Elder*.

PLAITED (plicatus) folded in plaits; as the bloſſom of *Convolvulus*; the cup of *Thrift*, and the leaves of *Ladies-mantle*. Pl. 7. f. 37.

POD (ſiliqua) a ſeed-veſſel of two valves, within which the ſeeds are fixed alternately to each ſeam. When long, it is called a pod, as in *Gilliflower*; when broad and ſhort, it is called a pouch, as in *Honeſty* and *Shepherd's Purſe*. Pl. 5. f. 10. f. 11. f. 12. f. 13.

POINTAL (piſtillum) a part of a flower, compoſed of the SEED-BUD, the SHAFT, and the SUMMIT. Look into the bloſſom of a *Plumb*, or *Cherry*, and in the centre you will ſee the pointal ſurrounded by chives. In the bloſſom of the *Apple*, or *Pear*, you will perceive five pointals in the centre. In the *Deadnettle* you will find the pointal covered by the upper lip, and forked at the top. In the centre of the bloſſom of the *White Lily*, the pointal ſtands ſurrounded by ſix chives. In this flower the SEED-BUD, which is the lower part of the pointal, is long, cylindrical, and marked with ſix furrows; next above this part is the SHAFT, which is long and cylindrical; and, at the top of the pointal is the SUMMIT, which is thick and triangular. See pl. 3. f. 2. *(d. e. f.)* f. 7. *(i. k. l.)* f. 5. *(c. d. e.)*

POINTING, FROM TWO OPPOSITE LINES. See *two-rowed*.

..... ONE WAY (ſecundus) as the flowers of the *Foxglove*, the *Cock's-foot*,

Cock's-foot, and the *Sheeps' Feſcue Graſs*. Pl. 2. f. 13. *(d.)*

PORES (pori) little holes. At the inner ſide of the baſe of the petals, in all the ſpecies of *Ranunculus* or *Crowfoot*, are littles pores filled with honey. See alſo pl. 3. f. 3. *(k.)*

POUCH (ſilicula) pl. 5. f. 10. f. 11. See POD.

PRICKLES (aculei) ſharp-pointed weapons of defence, formed from the bark, and not from the woody part of a plant. The prickles of the *Roſe* are a familiar example. Pl. 10. f. 2.

PRISM-SHAPED (priſmaticus) differing from cylindrical in the circumference being angular, as the cup of the Pulmonaria.

PROLIFEROUS (proliferi flores) BLOSSOMS; when one grows out of another, as is not uncommon in the *Polyanthus*.

..... SHOOTS; when one ſhoot ſprings out of another, as in the *Proliferous Feather-moſs*.

PROMINENT (prominens) the partition of a ſeed-veſſel is ſaid to be prominent when it projects beyond the valves, as in *Cabbage*, and many other plants of the fifteenth claſs.

PROPS (ſtipulæ) ſmall leaves or ſcales ſituated on each ſide the baſe of a leaf-ſtalk or fruit-ſtalk, for the purpoſe of ſupporting them at their firſt appearance. They are ſufficiently evident in the *Garden Pea*. Pl. 10. f. 6. *(b. b.)*

PROTUBERANCES (toroſus) in ſeed-veſſels; occaſioned by the ſwelling of the incloſed ſeeds. They are ſufficiently evident in the pods of *Muſtard*, and in ſome ſorts of *Beans*.

PULPY (pulpoſus) ſoft and tenacious. A *Cherry* is pulpy, but an *Apple* is fleſhy.

PULPY (drupa) SEED-VESSEL; conſiſts of a nut or ſtone encompaſſed by a pulpy ſubſtance, exemplified in the *Plumb*, the *Cherry*, and the *Peach*. Pl. 5. f. 21.

PURSE-SHAPED (ſcrotiformis) like a purſe that draws together with ſtrings at the top; as the ſeed-veſſel of the *Purple Marſhlocks*, or the honey-cup of the *Satyrion*.

RADIATE (radiatus) a ſpecies of compound flowers in which the florets of the centre differ in form from thoſe in the circumference. Thus the *Daiſie* and *Sunflower* are radiate flowers; the florets in the centre are all tubular, but thoſe in the circumference are narrow or ſtrap-ſhaped. Pl. 4. f. 24.

..... SUMMITS; placed in a circle; as in the *Poppy*. Pl. 5. f. 5. *(b.)*

RECEPTACLE (receptaculum) one of the parts neceſſary to compoſe a flower. It is the baſe, or ſeat, upon which the other parts of a flower are placed. Pl. 4. f. 11. *(c.)* f. 23. *(a.)*

REFLECTED (reflectus) bent back, as the ſegments of the cup of the *Currant*; the petals of the *Flower de Luce*; the bloſſoms of the *Hyacinth* and *White Lily*. Pl. 4. f. 5.

REGULAR (regularis) BLOSSOM; one that is regular in the figure, ſize, and proportion of its parts; as the *Jeſſamine* and *Syringo*.

REMOTE

REMOTE (remotus) WHORLS; when there is a conſiderable length of ſtem between each whorl. Pl. 6. f. 11. *(a. a. a.)*

RIGID (ſtrictus) inflexible; oppoſed to limber and flexible.

ROLLED BACK (revolutus) with reſpect to the leaf in general, rolled downwards, as the ends of the leaves of *Sweet Williams*; pl. 9. f. 5. *(f. f.)* with reſpect to the edges, rolled inwards towards the rib of the leaf, as in the leaves of *Roſemary*, and the young leaves of the *Oſier*; and in the ſummits, as the *Pink*. Pl. 1. f. 19. *(c. c.)*

ROOT (radix) may be *Fibrous*, *Bulbous*, *Tuberous*, *Bundled*, *Beaded*, *Spindle-ſhaped*, or *creeping*. See thoſe terms. See alſo pl. 11.

ROOT-LEAVES (radicalia) the leaves that proceed immediately from the root, without the intervention of a ſtem. They often differ in ſhape and ſize from the other leaves. The *Field Bellflower* furniſhes an example. Pl. 9. f. 7.

RUFFLE (volva) the membranaceous empalement of funguſſes, ſurrounding the Pillar. Pl. 1. fig. H. *(a.)*

RUNDLE (umbella) a compoſition of flowers in which a number of ſlender fruit-ſtalks proceed from the ſame centre, and riſe nearly to the ſame height, ſo as to form a regular ſurface at the top. *Hemlock*, *Carrot*, and *Cow-parſnep*, are examples. Rundles of flowers are frequently called Umbels; and the plants producing them are ſaid to be *umbelliferous* plants. Pl. 6. f. 9.

RUNDLET (umbellula) a little rundle. The fruit-ſtalks which compoſe a rundle are often divided at the top into ſeveral ſmall fruit-ſtalks, and theſe ſmaller ſets of fruit-ſtalks are called *Rundlets*. *Hemlock*, *Carrot*, and *Angelica*, furniſh inſtances. The fruit-ſtalks of a rundle, and of a rundlet, are called *Spokes*. Pl. 6. f. 9. *(b. b. b. b.)*

RUNNING (decurrens) *along the* STEM; means that a leaf has no leaf-ſtalk, and that its baſe is attached to the ſtem for a conſiderable length. The *Great White Mullein*, and the *Muſk Thiſtle*, are examples. Pl. 9. f. 4. *(e.)*

SALVER-SHAPED (hypocrateriformis) the ſhape of a bloſſom of one petal, the lower part of which is tubular, the upper part flat and expanded; as the bloſſom of the *Periwinkle*, and the *Mouſe-ear Scorpion Graſs*. Pl. 4. f. 1.

SAUCER (ſcutellum) a ſort of flower of the *Cupthong*, that is, circular and concave, like a china ſaucer. Pl. 1. f. F.

SCALY (ſquamoſus) like the ſkin of a fiſh; as the cups of *Burdock*. Pl. 4. f. 25. *(a.)*

SCATTERED (ſparſus) diſpoſed without any regular order.

SCOLLOPED (crenatus) inſpect the edges of the leaves of *Bird's-eye* and *Gill*, and you will have a true idea of this term. Pl. 7. f. 35. 34. 33.

SCORED (ſtriatus) marked with ſuperficial lines, as the cup of a *Pink*, or the ſtems of *Butchersbroom*.

SCURFY (ſquarroſus) applied to a cup, in compound flowers, the ſcales of which are bent outwards at the ends.

SEAM (ſutura) the line formed by the union of the valves of a ſeed-veſſel. Thus the pod of a *Pea* is a ſeed-veſſel of two valves, and the two ſeams where the valves join are ſufficiently conſpicuous. As alſo in pl. 5. f. 6.

SEED (ſemen) a deciduous part of a vegetable, containing the rudiments of a new plant. It conſiſts of the HEART, the SEED-LOBES, the EYE, and the SEED-COAT. See thoſe terms. Sometimes it is crowned with the cup of the flower, and ſometimes it is winged with a feather, or with a thin expanded membrane, which enables the wind to waft it abroad. See pl. 4. f. 22. and pl. 6. f. 3.

SEED-BUD (germen) the lower part of a pointal. It is the rudiment of the embryo fruit. See POINTAL. Pl. 3. f. 2. *(d.)* f. 5. *(c.)* f. 7. *(i.)*

SEED-COAT (arillus) the proper coat of a ſeed which falls off ſpontaneouſly. It is remarkable in *Spindle-tree*, *Hound's tongue*, the *Cucumber*, the *Fraxinella*, and the *Mallow*. Some ſeeds have only a dry covering or ſkin, as the *Bean*. Pl. 6. f. 1. *(c. c.)*

SEED-COVER (calyculus) the real cover of the ſeed.

SEED-LOBES (cotyledones) The periſhable parts of a ſeed, deſigned to afford nouriſhment to the young plant when it firſt begins to expand. A bean, after being ſoaked in water, or moiſt earth, eaſily parts with its external ſkin, and divides into two parts, called the SEED-LOBES. Pl. 6. f. 3. *(a. a.)*

SEED-VESSEL (pericarpium) a veſſel to contain the ſeed. It is of ſeveral kinds; as a CAPSULE; a POD; a SHELL; an AIR-BAG: PULPY, including a nut or ſtone; an APPLE; a BERRY; and a CONE. See thoſe terms. See alſo pl. 5. from f. 5 to f. 21.

SEGMENT (lacinium) the ſmall parts of a leaf, a cup, or a petal, included between the inciſions.

SEMI-CYLINDRICAL (ſemiteres) if the trunk of a tree was ſawed lengthways thro' the middle, each part would be ſemi-cylindrical. The ſtalk of *Ramſons* is in this ſhape.

SEMINAL-LEAVES; thoſe which ariſe immediately from a ſeed.

SEPARATE (monoecia) chives and pointals are ſaid to be ſeparate when they are found upon the ſame plant, but within different empalements. Thus in the *Box*, the *Birch*, the *Cucumber*, and the *Melon*, ſome of the empalements contain chives, and others contain pointals; but none of them contain both together. Pl. 1. f. 21.

SERPENTINE (repandus) the edge of ſome leaves is formed like a ſerpentine line; without any angles or corners. Pl. 7. f. 29.

SERRATED (ſerratus) like the teeth of a common ſaw; as are the edges of the leaves of the *Apple*, the *Pear*, the *Spearmint*, the *Dead-nettle*, the *Sneezewort* or *Gooſetongue*, &c. Some leaves are DOUBLY SERRATED; that is, the teeth are again cut into other little teeth. The *Common Elm* is an example. Pl. 7. f. 31. 32.

SHAFT (ſtylus) a part of a pointal, ſtanding upon the ſeed-bud, and ſupporting the ſummit. See POINTAL. Pl. 3. f. 2. *(e.)* f. 5. *(d.)* f. 7. *(k.)*

SHARP (acutus) as the leaves of the *Jeſſamine*, or the ſegments of the cup of the *Primroſe*. Pl. 3. f. 10. Pl. 7. f. 40.

SHARP-POINTED (mucronatus) ending in a hard ſharp point.

SHEATH (ſpatha) a ſpecies of empalement, exemplified in the *Crocus*, the *Iris*, and the *Daffodil*. Pl. 3. f. 9. *(a. a.)*

SHEATHED FRUIT-STALK (ſpadix) one that is furniſhed with a ſheath. Pl. 3. f. 9. *(d.)*

SHEATHING (vaginans) LEAVES; when the baſe of a leaf enfolds the ſtem; as in moſt of the Graſſes. Pl. 9. f. 4. *(i.)*

SHEDDING (caducus) continuing but a ſhort time. Applied to a cup, it ſignifies that it falls off before the bloſſom, as in *Poppy*.

SHELL (legumen) a ſeed-veſſel of two valves, wherein the ſeeds are fixed to one ſeam only; as in the *Pea*, and moſt of the plants in the fourth order of the ſeventeenth claſs. Pl. 5. f. 16.

SHORT (abbreviatus) a cup is ſaid to be ſhort, when it is ſhorter than the tube of the bloſſom, as in pl. 4. f. 7. *(c.)*

SHRIVELLING (marceſcens) fading and withered, but not falling off. e. g. The bloſſoms of *Plantain* and *Stitchwort*.

SHRUBBY (fruticoſus) ſomewhat woody, as the ſtems of the *Roſe*.

SIMPLE (ſimplex) undivided. ..... STEM; one that is undivided; only ſending out ſmall branches.

..... LEAF; when there is only one upon a leaf-ſtalk.

..... CUP; one that conſiſts of a ſingle ſeries of ſegments: e. g. *Goats-beard*.

..... STALK; undivided, as the ſtalks of *Tulips* and *Thriſt*.

SINGLE (unicus) one flower only upon a ſtalk, as the *Tulip*.

SITTING (ſeſſilis) LEAVES; have no leaf-ſtalk, as *Spearmint* and *Hound's-tongue*.

..... FLOWERS; are thoſe that have no FRUIT-STALK, as the flowers of *Mezereon*.

SKINNY (ſcarioſus) tough, thin, and ſemi-tranſparent; as the cup of *Thriſt*.

SLANTING (obliquus) ſtraight, but between horizontal and perpendicular.

SNIPT (inciſus) finely cut at the edges.

SMOOTH (glaber) ſurface even, without any inequalities; oppoſed to *rough*, *prickly*, or other inequalities occaſioned by prominencies on the ſurface.

SOLITARY (ſolitarius) only one in a place; as but one flower on a fruit-ſtalk, and only one fruit-ſtalk proceeding from the ſame part of a plant.

SPATULA-SHAPED (ſpathulatus) the form of a leaf. Pl. 8. f. 64.

SPEAR-SHAPED (lanceolatus) as the leaf of *Ribwort Plantain*, and *Spearmint*. Pl. 7. f. 6.

SPECIFIC CHARACTER. One or more circumſtances of a plant ſufficient

ſufficient to diſtinguiſh it from every other plant of the ſame genus. The ſpecific characters are generally taken from the leaves or ſtem; ſometimes from the flowers, but ſeldom from the roots.

SPIKE (ſpica) a compoſition of flowers placed alternately on each ſide of a common ſimple fruit-ſtalk, and not ſtanding upon little fruit-ſtalks. *Great Mullein*, *Agrimony*, and many of the *Graſſes* have their flowers collected into ſpikes. Pl. 6. f. 5.

SPIKE-STALK (rachis) a long rough receptacle upon which the flowers compoſing a ſpike are placed. Take a ſpike (or as it is requently called, an ear) of Wheat; pull off all the ſeeds and chaff: what remains is a SPIKE-STALK. Pl. 2. f. 24. *(c. c.)*

SPINDLE-SHAPED (fuſiformis) a gradually tapering ROOT. e. g. *Carrot*. Pl. 11. f. 6.

SPIRAL (ſpiralis) twiſted like a cork-ſcrew. Pl. 10. f. 6. *(a. a.)*

SPOKES (radii) the fruit-ſtalks of flowers collected into RUNDLES or RUNDLETS: ſee thoſe terms. They ſpring from one point and diverge like the ſpokes of a cart wheel. Pl. 6. f. 9. *(e. e. e. e.)*

SPREADING (diffuſus) not riſing high, but ſpreading wide upon the ground; as the ſtems of *Fumitory* and *Panſie*.

SPUR (calcar) ſhaped like the ſpur of a cock, as the honey cups of the *Larkſpur*.

STALK (ſcapus) that ſpecies of trunk which elevates and ſupports the flowers, but not the leaves of a plant. It differs from the FRUIT-STALK, for that ſprings from the ſtem, or branches; but this riſes immediately from the root: as in *Narciſſus*; *Lily of the Valley*, and *Hyacinth*. Pl. 6. f. 4.

STANDARD (vexillum) the upright petal of a butterfly-ſhaped bloſſom; as in the *Pea*. See the introduction to the 17th claſs. See alſo pl. 4. f. 12. *(b.* f. 14. *b)* f. 15.

STARRY (ſtellatus) plants whoſe leaves grow in whorls round the ſtem; as the *Gooſegraſs*, *Cheeſe-rennet*, and ſeveral other plants in the fourth claſs. Pl. 9. f. 3. *(b. b.)*

STEM (caulis) the proper trunk of a plant ſupporting the leaves, branches and flowers. It riſes immediately from the root.

STEM-LEAVES (caulina) ſuch as grow immediately upon the ſtem without the intervention of branches.

STEM-LESS (acaulis) without a ſtem.

STINGS (ſtimuli) ſharp pointed ſubſtances conveying poiſon into the part they penetrate. Few people are ignorant of the ſting of a *Nettle*.

STONE. See Nut.

STRADDLING (divaricatus) branches ſtanding wide from each other.

STRAP-SHAPED (linearis) long and narrow like a ſtrap or a fillet; as the leaves of *Thrift*; *Crocus* and *Roſemary*. Pl. 7. f. 7.

STRAW (culmus) a kind of trunk proper to Graſſes. Pl. 10. f. 3.

STRINGS (nervi) woody fibres, running undivided from the baſe to the extremity of leaves,

as

as in the broad and narrow-leaved *Plantain*. Pl. 7. f. 46.

SUCKERS (ſtolones) ſhoots that riſe from the root, ſpread along the ground, and then take root themſelves; as in the *Sweet Violet*.

SUMMIT (ſtigma) the upper part of a pointal. See POINTAL, pl. 3. f. 2. *(f.)* f. 5. *(e.)* f. 7. *(l.)*

SUPERIOR (ſuperus) CUP or BLOSSOM: when the cup or bloſſom is ſituated above the ſeedbud, it is ſaid to be ſuperior; as in the *Honeyſuckle*; *Currant* and *Campanula*.

SWORD-SHAPED (enſiformis) as the leaves of the *Iris* or *Flower de Luce*.

TAPER (acuminatus) tapering to a point. Pl. 7. f. 41.

..... (attenuatus) a fruitſtalk, tapering upwards.

TARGET. A kind of flower in the genus *Cupthong*, that is circular and convex. See SAUCER.

TENDRIL (cirrhus) a ſpiral ſhoot or ſtring, by means of which ſome plants ſupport themſelves againſt the adjacent bodies. It is well known in the *Vine* and *Pea*. Pl. 10. f. 6. Pl. 8. f. 58.

TERMINATING (terminalis) (oppoſed to lateral) ſtanding at the ends of the ſtem or branches; as the fruit-ſtalks of *Borrage*, the bloſſoms of *Groundſel*.

THORN (ſpina) a ſharp pointed projection growing from the woody ſubſtance of a plant; as in *Gorze* and *Blackthorn*. Pl. 10. f. 1.

THREAD (filamentum) a part of a chive ſupporting the tip. See CHIVE. Pl. 3. f. 3 *(h.)* f. 6. *(g.)* Pl. 1. f. 19. *(a. a.)*

THREAD-SHAPED (filiformis) of the ſame thickeneſs from top to bottom, like a piece of packthread. Take for example the leaves of *Fennel*, or the ſhaft of the *Crocus*, or *Honeyſuckle*.

THREE-EDGED (trigonus) a ſtem having three corners or angles and the ſides not flat.

THREE-FIBRED (trinervatus) having three veins or veſſels running from the baſe to the end of a leaf, without branching off.

THREE-SQUARE (triqueter) having three corners or angles with flat ſides; as the ſtem of the *Punſie*.

THRONGING (confluentia) aſſembled in cloſe parcels, with intervening naked places.

TILED (imbricatus) one leaf or ſcale partly covering another like the tiles on a houſe. e. g. The cup of *Dandelion* or of *Burdock*. Pl. 4. f. 25. *(a.)*

TIP (anthera) a part of a chive fixed upon the thread, and containing the duſt. In *Dogs Mercury* it hath one cell; in *Hellebore* two; in *Orchis* three; in *Fritillary* four; ſee CHIVE. Pl. 3. f. 2. *(c. c. c. c. c. c.)* f. 5. *(b. b. b. b. b. b.)* f. 6. *(h.)*

TOOTHED (dentatus) when the edges of a leaf are ſet with little teeth, not pointing towards the end as in the ſerrated leaves, nor towards the baſe as in the inverſely ſerrated leaves. *Common Eyebright*; *Primroſe*; *Cowſlips*; and *Mountain Willowherb*, have toothed leaves. Pl. 7. f. 30.

TRAILING (procumbens) STEMS; lying along upon the ground, and not ſending out roots. e. g. *Com-*

e. g. *Common Speedwell, Red Pimpernel, ſmall Sea Bindweed.*

TREBLY COMPOUND. See TRIPLY COMPOUND.

TRIANGULAR (triangularis) expreſſing the form of a leaf that hath three ſides and three angles, or corners. Pl. 7. f. 12.

TRIANGULARLY SPEAR-SHAPED (deltoideus) leaves in this form are broad at the baſe and nearly triangular, but ſpear-ſhaped at the point. e. g. *Black Poplar*. Pl. 7. f. 45.

TRIPLY COMPOUND LEAVES (folia ſupra decompoſita) are of three kinds, viz.

1. DOUBLE TWINFORK (tergeminus) leaf-ſtalk, with two leafits at the end of each, and two more at the diviſion of the fork. Pl. 8. f. 57.
2. TRIPLY THREEFOLD (triternatus, triplicato-ternatus.) Pl. 8. f. 59. the diviſions of a triple leaf-ſtalk again ſub-divided into *threes*, and three leafits at the end of each ſub-diviſion.
3. TRIPLY WINGED (tripinnatus; triplicato-pinnatus) when the lateral ribs of a doubly winged leaf, have themſelves other leaf-ſtalks with winged leaves. Pl. 8. f. 60. 61.

TRUNK (truncus) the main body of a plant: it is either a STEM, a STALK, a STRAW, or a PILLAR. See thoſe terms.

TUBE (tubus) the lower part of a bloſſom of one petal is frequently lengthened out into a tube, as in *Crocus* and *Polyanthus*. Pl. 4. f. 1. *(a.)* f. 7. *(a.)*

TUBERCLE (tuberculus) a little ſolid pimple.

TUBEROUS (tuberoſus) ROOT; conſiſting of many roundiſh knobs collected into a bundle, as the root of *Pæony* and *Dropwort*. Pl. 11. f. 7.

TUBULAR (tubuloſus) in the ſhape of a hollow tube, as the cup of *Privet*, the bloſſom of the *Honeyſuckle*, or the honey-cup of the *Hellebore*.

..... FLORETS, in compound flowers, are ſhaped like a hollow tube, and the top is cloven into five ſegments. In the *Tanſey* all the florets are tubular, but, in the *Sunflower* and the *Daiſie*, only thoſe in the centre. Pl. 4. f. 26.

TUFT (cyma) a compoſition of flowers in which a number of fruit-ſtalks proceeding from one common centre, riſe to the ſame height; and theſe again ſhoot out other little fruit-ſtalks, which do not proceed from one central point. The *Elder*, the *Gelder Roſe*, and the *Lauruſtinus*, are inſtances. Pl. 6. f. 10.

TURBAN-SHAPED (turbinatus) like a Turkiſh turban; exemplified in the cup of the *Elm*, or *French Wheat*; ſome *Pears* are in this form.

TWINING (volubilis) twiſting round other bodies, and aſcending in a ſpiral line. Some plants twine from the left to the right ☾ in the direction of the ſun's apparent motion, as *Hop*, *Honeyſuckle*, and *Black Briony*. Others twine from the right to the left ☽ contrary to the ſun's apparent motion, as *Bindweed* and *Scarlet Kidney Bean*. Pl. 10. f. 5.

TWIN-

TWIN-FORK (bigeminus) ſee DOUBLY COMPOUND LEAVES.

TWO-EDGED (anceps) as the ſtem of *Tutſan*, and the *Sweet-ſmelling Solomon's Seal*.

TWO-ROWED (diſtichus) like the teeth in a double box, or ivory comb. The leaves of the common *Fir*, and the flowers of *Sweet Cyperus*, are examples.

UMBEL. See RUNDLE.

UNARMED (inermis) without weapons of defence. See WEAPONS.

UNDIVIDED. See SIMPLE.

UNEQUAL FLORETS (radiati) when a rundle is not compoſed of equal florets, but thoſe in the circumference are larger than thoſe in the centre, and the outer petals are larger and different in ſhape from the inner petals. As in the *Carrot* and *Cowparſnep*. See RADIATE, for Linnæus uſes the ſame term (radiatus) to expreſs the diſſimilarities of the florets in the rundle-bearing plants of the 5th Claſs, as well as thoſe of the compound flowers of the 19th.

UNIFORM (equalis) a term applied to compound flowers when the florets that compoſe them are all alike; as thoſe of *Fennel*, *Lettuce*, and *Burdock*.

UNITED (connatus) LEAVES, two oppoſite leaves growing together at the baſe. Pl. 9. f. 4. *(h. h.)*

UPRIGHT (erectus) ſtanding upright, as the cups of *Periwinkle*, the tips of *Polyanthus*; the ſtalks of *Tulips*; the ſtems of *Sparagus*. It is alſo applied to leaves. Pl. 9. f. 5. *(b. b.)*

VALVE (valvula) the different pieces that compoſe a capſule are called valves. Thus in the *Thorn-apple* there are four valves. Pl. 5. f. 14. *(c. c. c. c.)* In the *Looſeſtrife* ten, in *Jacob's Ladder*, *Daffodil*, and *Hyacinth* three. Pl. 5. f. 6. f. 12. *(a. a.)*

..... The petals and empalements that conſtitute the flowers of Graſſes, are called valves; thus in the *Common Meadow Graſs* the empalement is a dry chaffy huſk, compoſed of two valves, and the bloſſom is formed of two other valves. See pl. 2. f. 1. *(a. a.) (b. b.)* and moſt of the other figures in that plate.

..... The mouth of the tube of a bloſſom is frequently cloſed by ſeveral projecting ſubſtances; thus in the bloſſoms of *Borrage*, and *Jacob's Ladder*, the tube is cloſed by five of theſe ſubſtances, and they are called valves.

VANE-LIKE (verſatilis) turning about like a vane, or weather-cock, as is the caſe with the tips of *Geranium* and *Crown Imperial*.

VAULTED (fornicatus) like the roof of one's mouth. The upper lip of many of the gaping bloſſoms is vaulted; e. g. red and white *Deadnettle*.

VEIL (calyptra) the empalement of moſſes, covering the tips. It is generally in a conical form, like an extinguiſher. Pl. 1. f. D. *(a.)*

VIVIPAROUS (viviparus) a term applied to ſtems or ſtalks producing bulbs that are capable of vegetation. In *Toothwort* and *Star of Bethlem*, theſe bulbs are found at the baſe of the leaves; in *ſmall Biſtort*, on the lower part of the ſpike; in ſome ſpecies of *Garlic* at the

the origin of the rundle of flowers; and upon the ſpikes of ſome of the graſſes, as the *Cat's-tail Canary*.

WARTY (verrucoſus) having little hard lumps or warts upon the ſurface.

WAVED (undatus) when the ſurface of a leaf towards the edge does not lie flat, but appears waved, and full, like a man's ruffle. The leaf of the *Water Caltrops* is an example. Pl. 8. f. 66.

WEAPONS (arma) are either PRICKLES, THORNS, or STINGS. Pl. 10. See thoſe terms.

WEDGE-SHAPED (cuneiformis) as the leaves of the *Garden Spurge*, and the *Garden Purſlain*. Pl. 8. f. 65.

WHEEL-SHAPED (rotatus) a term uſed to expreſs a bloſſom of one petal, with a flat border and a very ſhort tube. *Borrage* and *Speedwell* are familiar examples. Pl. 4. f. 6.

WHORLS (verticilli) of BRANCHES, LEAVES, or FLOWERS. The branches of the *Fir*, the leaves of *Ladies Bed-ſtraw*, and the flowers of the red and white *Deadnettle*, grow in whorls round their reſpective ſtems. They ſomewhat reſemble the ſpokes round the nave of a wheel. Pl. 6. f. 11.

WINGS (alæ) the lateral petals of a butterfly-ſhaped bloſſom; e. g. in the *Pea*. See the introduction to the ſeventeenth claſs. See alſo pl. 4. f. 13. *(c. c.)* and f. 16.

WINGED (alatus) LEAF-STALK, flattiſh, with a thin membrane or leafy border on each ſide.

WINGED (pinnatus) LEAF; when an undivided leaf-ſtalk hath many little leaves growing from each ſide, as in *Jacob's Ladder*, *Bladder Sena*, *Aſh*, and *Pea*. Pl. 8. f. 52. 53. 54, &c.

WINGED CLEFT (pinnatafidus) applied to a leaf that is cut and divided ſo deeply on each ſide, down towards the middle rib, as almoſt to reſemble a winged leaf. The *Corn Poppy* and the *Polypody* are examples; and ſo are the root-leaves of the *Shepherd's Purſe*.

WINGED SHOOTS (ſurculi pennati) when the ſhoots ſtrike out from the ſides, like the plumage along the ſides of a quill. Inſtances will be found in ſeveral ſpecies of the *Feathermoſs*.

WIRES (flagelli) barren twigs or ſhoots lying upon the ground, as in the *Garden Strawberry* and *Stone Bramble*.

WOODY (arboreus) oppoſed to herbaceous. The ſtems of the *Wallflower* or *Gilliflower* are woody.

WOOL (lana) a kind of downy cloathing upon the ſurface of ſome plants. The leaves of *Horehound*, *Great Mullein* and *Gorze* are woolly.

WOOLLY (villoſus) covered with diſtinct ſoft hairs.

WRINKLED (rugoſus) as are the leaves of *Sage*, *Primroſe*, *Wood Strawberry*, and *Haſel*.

ZIGZAG (flexuoſus) having many turnings and bendings, as the ſtems of *Rough Bindweed*, and *Woody Nightſhade*, or the branches of *Golden Rod*.

THE

THE

LATIN TERMS of *LINNÆUS.*

With the correſponding *Engliſh* Words.

N. B. The following Alphabetical Liſt of the Terms uſed by LINNÆUS will be extremely uſeful to the learner, as by its aſſiſtance he will be enabled to underſtand other botanical books which he may wiſh to conſult. The Ladies too, who in ſpite of the obſtacles attendant upon a dead language, often having recourſe to LINNÆUS in the original, will find their labours greatly facilitated by it. And, laſtly, the *learned* botaniſt will, by the inſpection of it, be convinced how little occaſion there is to call in foreign terms, to the aid of a language ſo copious as is our own.

ABBREVIA'TUS, *ſhort.*
Aborti'vi (floſculi) *barren.*
Abrup'tus, *abrupt.*
Acau'lis, *ſtem-leſs.*
Acero'ſus, *chaffy.*
Acicula'ris, *needle-ſhaped.*
Acinacifor'mis, *ſcymetar-ſhaped.*
Aci'ni, *granulations.*
Acotyledo'nes, *ſeeds without lobes.*
Acu'lei, *prickles.*
Aculea'tus, *prickly.*
Acumina'tum (fol.) *tapering to a point.*
Acu'tus, *ſharp.*
Adna'tus, *connected.*
Adpreſ'ſus, *contiguous.*
Adſcen'dens, *aſcending.*
Æqua'lis, *equal.*
Aggrega'tus, *incorporated.*
A'la, *wing.*
Ala'tus, *winged ſeed, or leaf-ſtalk.*
Albur'num, *a ſoft white ſubſtance between the inner bark and the wood.*
Al'gæ, the 3d order of the 24th claſs.
Alter'nus, *alternate.*
Amen'tum, *catkin.*
Amplexica'ulis, *embracing the ſtem.*
An'ceps, *two-edged.*
Androgy'na (planta) *bearing both chives and pointals.*
Angula'tus, *angular.*
Anguſtifo'lius, *narrow-leaved.*
Angioſper'mia, *ſeeds covered.*
An'nuus, *annual.*
Anoma'la, *without order.*

An'thera,

An'thera, *tip.*
Apet'alus, *without petals.*
A'pex, *point.*
Apoph'yſis, *excreſcence in moſſes.*
Appendicula'tus, *with an appendage.*
Approxima'tus, *nearly upright.*
Arbo'reus, *woody.*
Arcua'tus, *bowed.*
Aril'lus, *ſee* Caliculus.
Ariſ'ta, *awn.*
Ar'ma, *weapons.*
Articula'tus, *jointed.*
Aſperifo'lia, *rough-leaved.*
Aſſur'gens, *riſing.*
Attenua'tus, *tapering upwards.*
Auc'tus, *leaſy.*
Auricula'tus, *ear-ſhaped.*
Ave'nis, *without veins.*
Axilla'ris, *at the baſe or boſom of the leaves.*
Bac'ca, *berry.*
Bar'ba, *beard.*
Barba'tus, *bearded.*
Bicapſula'ris, *two capſuled.*
Bien'nis, *biennial.*
Bifa'rius, *oppoſite.*
Bif'idus, *cleft or cloven.*
Biflo'rus, *two-flowered.*
Bigem'inus, *twinfork.*
Biju'gum, *two couple.*
Bilabia'tus, *two-lipped.*
Bilo'bum, *two lobes.*
Bina'tus, *in pairs.*
Bilocula'ris, *two celled.*
Biparti'tus, *having two diviſions.*
Bipinna'tus, *doubly winged.*
Biterna'tus, *doubly threefold.*
Bival've (pericarpium) *two-valved.*
Brachia'tus, *ſee* Decuſſatus.
Brac'tea, *floral-leaf.*
Bulbo'ſus, *bulbous.*
Bul'bus, *bulb.*
Bulla'tus, *bliſtered.*
Cadu'cus, *ſhedding.*
Cæſpito'ſus, *matted together.*
Cal'car, *a ſpur.*
Calicula'tus, *cup double.*
Calic'ulus, *ſeed-coat cover.*
Calyp'tra, *veil.*
Ca'lyx, *empalement.*
Campanula'tus, *bell-ſhaped.*
Canalicula'tus, *channelled.*
Capilla'ris, *hair-like.*
Capita'tus, *growing in heads.*
Capit'ulum, *knob.*
Capit'ulus, *flowering head.*
Capre'olus, *ſee* Cirrhus.
Cap'ſula, *capſule.*
Cari'na, *keel.*
Carina'tus, *boat-ſhaped, or keeled.*
Carno'ſus, *fleſhy.*
Cartilagin'eus, *griſtly.*
Catenula'tus, *chained.*
Cat'ulus, *ſee* Amentum.
Cau'da, *tail.*
Cau'dex, *body.*
Cauleſ'cens, *having a ſtem.*
Cauli'nus, *belonging to the ſtem.*
Cau'lis, *ſtem.*
Cer'nuus, *crooked, when applied to fruit-ſtalks.*
Cilia'tus, *fringed.*
Cin'gens, *binding round.*
Circumciſ'ſus, *cut round.*
Cirrho'ſum (fol.) *terminating in a tendril.*
Cir'rhus, *tendril.*
Claſ'ſis, *claſs.*
Clau'ſus, *cloſed.*
Clava'tus, *club-ſhaped.*
Clavic'ula, *ſee* Cirrhus.
Coaduna'tus, *joined.*
Coarcta'tus, *compact.*
Cochlea'tus, *like a ſnail-ſhell.*
Colora'tus, *coloured.*
Columnel'la, *column.*
Columna'ris, *a ſquare pillar.*
Co'ma, *comb.*

Commu'nis, *common.*
Compac'tus, *firm.*
Comple'tus, *perfect.*
Compoſ'itus, *compound.*
Compreſ'ſus, *compreſſed.*
Conca'vus, *concave.*
Conduplica'tus, *doubled together.*
Confer'tus, *crowded.*
Confluen'tia (fol.) *thronging: uniting.*
Congeſ'tus, *collected into a ball.*
Conglomera'tus, *cloſe.*
Co'nicus, *conical.*
Conna'tus, *united* (leaves.)
Conni'vens, *approaching.*
Conni'vens calyx, *cloſing* (cup.)
Contra'rius, *contrary.*
Convex'us, *convex.*
Convolu'tus, *bent from left to right.*
Cor'culum, *heart of a ſeed.*
Corda'tus, *heart-ſhaped.*
Coria'ceus, *leather-like.*
Cornu'tus, *horn-ſhaped.*
Corol'la, *bloſſom.*
Coro'na, *crown.*
Corona'tus, *crowned.*
Cor'tex, *bark.*
Corym'bus, *broad-topped ſpike.*
Cotyledo'nes, *ſeed-lobes.*
Crena'tus, *ſcolloped.*
Criſ'pus, *curled.*
Criſta'tus, *creſted.*
Crucia'tus, *croſs-ſhaped.*
Cryptoga'mia, claſs 24, *flowers inconſpicuous.*
Cuculla'tus, *hooded.*
Cul'mus, *ſtraw.*
Cuneifor'mis, *wedge-ſhaped.*
Cuſpida'tus, *ſpit-pointed.*
Cyathifor'mis, *glaſs-ſhaped.*
Cylin'dricus, *cylindrical*; ſee teres.
Cy'ma, *tuft.*
Deb'ilis, *feeble.*
Decagyn'ia, *ten pointals.*
Decan'dria, claſs 10, *ten chives.*
Decaphyl'lus, *ten-leaved.*
Decid'uus, *deciduous.*
Declina'tus, *declining.*
Decompoſ'itus, *doubly compound.*
Decum'bens, *lying down.*
Decur'rens, *running along the ſtem.*
Decurſi'vus, *running along* (the leaf-ſtalk.)
Decuſſa'tus, *croſs pairs.*
Deflex'us, *a little bent outwards.*
Deflora'tus, *having diſcharged the duſt.*
Deltoide'us, *triangular ſpear-ſhaped.*
Demer'ſus, *ſee* Submerſus.
Dendroi'des, *ſhrubby.*
Denta'to-ſinua'tus, *toothed and indented.*
Denta'tus, *toothed.*
Denticula'tus, *with little teeth.*
Depen'dens, *hanging down.*
Depreſ'ſus, *depreſſed.*
Diadel'phia, claſs 17, *threads in two ſets.*
Dian'dria, claſs 2, *two chives.*
Dichot'omus, *forked.*
Did'ymus, *double.*
Didyna'mia, claſs 14, *two chives longer.*
Diffor'mis, *irregular and uncertain ſhaped.*
Diffu'ſus, *ſpreading.*
Digita'tus, *fingered.*
Digyn'ia, *two pointals.*
Dimidia'tus, *going half way round.*
Dioe'cia, claſs 22, *chives and pointals diſtinct.*
Diphyl'lus, *two-leaved.*
Diſ'cus, *centre.*
Diſſec'tus, *ſee* Laciniatus.
Diſper'ma *two ſeeded.*
Diſſepimen'tum, *partition.*
Diſſil'iens, *burſting.*
Diſ'tans, *diſtant.*
Diſ'tichus, *two-rowed.*

Divarica'tus,

Divarica'tus, *ſtraddling.*
Diver'gens, *diverging.*
Dodecagyn'ia, *twelve pointals.*
Dodecan'dria, claſs 11, *twelve chives.*
Dolabrifor'mis, *battledore-ſhaped.*
Dorſa'lis, *fixed to the back.*
Dru'pa, *pulpy ſeed veſſel.*
Duplica'tus, *doubled.*
Echina'tus, *beſet with prickles.*
Ellip'ticus, *ſee* Ovalis.
Emargina'tus, *notched at the end.*
Ener'vis, *without ſtrings.*
Ennean'dria, claſs 9, *nine chives.*
Eno'dis, *without joints.*
Enſifor'mis, *ſword-ſhaped.*
E'quitans, *laminated.*
Erec'tus, *upright.*
Ero'ſus, *gnawed.*
Exſer'tus, *ſtanding out.*
Extrafolia'ceus, *beneath the leaves.*
Farc'tus, *full.*
Fari'na, *duſt*, ſee Pollen.
Faſcicula'ris, } *bundled.*
Faſcicula'tus, }
Faſcic'ulus, *a bundle.*
Faſtigia'tus, *level.*
Faux', *mouth.*
Femin'eus Flos. *fertile flower.*
Fer'tiles, *fertile.*
Fibro'ſus, *fibrous.*
Filamen'tum, *thread.*
Fili'ces, *ferns*, the 1ſt order of the 24th claſs.
Filifor'mis, *thread-ſhaped.*
Fimbrica'tus, *tattered.*
Fif'ſus, *cloven.*
Fiſtulo'ſus, *hollow.*
Flac'cidus, *limber.*
Flagel'lum, *a wire.*
Flexuo'ſus, *zigzag.*
Flora'lis, *floral* (leaf.)
Flos, *flower.*
Floſ'culus, *floret.*
Floſculoſ'us, *tubular* (floret)
Folia'tus, *covered with leaves.*
Folia'ceus, *leafy.*
Fo'lium, *leaf.*
Foli'olum, *leaflt.*
Follic'ulus, *airbag.*
Fornica'tus, *vaulted.*
Frutico'ſus, *ſhrubby.*
Fructifica'tio, *flower and fruit.*
Fruc'tus, *fruit.*
Ful'cra, *ſupporters.*
Fun'gi, *funguſſes*, the 4th order of the 24th claſs.
Fur'ca, *fork.*
Furca'tus, *forked.*
Fuſifor'mis, *ſpindle-ſhaped.*
Ga'lea, *helmet.*
Gem'inis, *in pairs.*
Gem'ma, *bud.*
Ge'nus, } *ſee the introduction.*
Gen'era, }
Genicula'tus, *knee-jointed.*
Genic'ulum, *knee-joint.*
Ger'men, *ſeed-bud.*
Gib'bus, *hunched.*
Gla'ber, *ſmooth.*
Glan'dula, *gland.*
Globo'ſus, *globular.*
Glo'chis, *hook with many points.*
Glomera'tus, *congregated.*
Glu'ma, *huſk.*
Glutinoſ'itas, *gummy.*
Gram'ina, *graſſes.*
Granula'tus, *beaded.*
Gymnoſper'mia, *ſeeds naked.*
Gynan'dria, claſs 20, *chives on the pointal.*
Ha'mus, *hook.*
Haſta'tus, *halberd-ſhaped.*
Hemiſpher'icus, *hemiſpherical.*
Heptan'dria, claſs 7, *ſeven chives.*
Herba'ceus, *herbaceous.*
Hermaphrodi'tus, *flowers containing both chives and pointals.*
Hexago'nus, *ſix-ſided.*

Hexagyn'ia, *ſix Pointals.*
Hexan'dria, claſs 6, *ſix chives.*
Hi'lum, *eye of a ſeed.*
Hirſu'tus, *rough with hair.*
Hiſ'pidus, *covered with ſtrong hair.*
Horizonta'lis, *horizontal.*
Hypocraterifor'mis, *ſalver-ſhaped.*
Icoſan'dria, claſs 12, *twenty chives.*
Imbrica'tus, *tiled.*
Ina'nis, *pithy.*
Inca'nus. *See* Tomentoſus.
Inci'ſus, *ſnipt.*
Inclina'tus, *leaning.*
Inclu'ſus, *incloſed.*
Incomple'tus, *imperfect.*
Incraſſa'tus, *thicker towards the top.*
Incumben'tes, *fixed ſide-ways.*
Incurva'tus, *bowed inwards.*
Iner'mis, *unarmed.*
In'ferus, *beneath.*
Infla'tus, *bladder-ſhaped.*
Inflex'us, *bent inwards.*
Infloreſcen'tia, *mode of flowering.*
Infundibulifor'mis, *funnel-ſhaped.*
In'teger, *entire.*
Integer'rimus, *very entire.*
Interrup'tus, *interrupted.*
Intrafolia'ceus, *within the leaves.*
Involucel'lum, *partial fence.*
Involu'crum, *fence.*
Involu'tus, *rolled inwards.*
Irregula'ris, *irregular.*
Labia'tus, *having lips.*
La'bium, *lip.*
La'cerus, *ragged.*
Lacin'ia, *ſegments.*
Lacinia'tus, *jagged.*
Lacteſ'cens, *milky* (juices)
Lacuno'ſus, *pitted.*
Læ'vis, *even.*
Lamel'læ, *gills.*
Lam'ina, *limb.*
La'na, *wool.*
Lana'tus, *cobwebbed.*
Lanceola'tus, *ſpear-ſhaped.*
Latera'lis, *lateral.*
Lax'us, *limber.*
Legu'men, *ſhell.*
Lepro'ſus, *ſpotted like a leper.*
Li'ber, *the inner bark.*
Ligula'tus, *ſtrap-ſhaped.*
Lim'bus, *border.*
Lin'ea, *a line.*
Linea'ris, *ſtrap-ſhaped.*
Linea'tus, *ſtreaked.*
Lingula'tus, *tongue-ſhaped.*
Loba'tus, *gaſhed.*
Lo'bus, *lobe.*
Loculamen'tum, *cell.*
Lon'gus, *long.*
Lu'cidus, *tranſparent.*
Luna'tus, *creſcent-ſhaped.*
Lyra'tus, *lyre-ſhaped.*
Magnitu'do, *ſize.*
Marceſ'cens, *ſhrivelling.*
Margina'tus, *bordered.*
Maſ'culus, *barren.*
Membrana'ceus, *membranaceous.*
Monadel'phia, claſs 16, *threads united.*
Monan'dria, claſs 1, *one chive.*
Mone'cia, claſs 21, *chives and pointals ſeparate.*
Monogy'nia, *one pointal.*
Monopet'ala, *one petal.*
Monophyl'lus, *one leafed.*
Mucrona'tus, *ſharp-pointed.*
Multif'idus, *many clefted.*
Multiflo'ri, *many flowered.*
Multiparti'tus, *deeply divided into many parts.*
Murica'tus *covered with ſharp points.*
Muſ'ci, *moſſes*, the 2d order of the 24th claſs.
Mu'ticus, *without awns.*
Na'tans, *floating.*
Navicula'ris, *boat ſhaped.*
Necta'rium, *honey-cup.*

Nervo'ſus,

Nervo'ſus, *ſtringy.*
Nidulan'tia, (Semina) *diſperſed in pulp.*
Nit'idus, *gloſſy.*
Nu'dus, *naked.*
Nu'tans, *nodding.*
Nux, *nut.*
Obcorda'tus, *inverſely heart-ſhaped.*
Obli'quus, *ſlanting.*
Oblon'gus, *oblong.*
Obſole'te, *indiſtinctly.*
Obtu'ſus, *blunt.*
Octogyn'ia, *eight pointals.*
Octan'dria, claſs 8, *eight chives.*
Oper'culum, *lid.*
Opercula'tus, *covered with a lid.*
Oppoſitifo'lius, *oppoſite the leaves.*
Oppoſ'itus, *oppoſite in pairs.*
Orbicula'tus, *round and flat.*
O're Perian'thii, *rim of the cup.*
Oſ'ſeus, *hard as bone.*
Ova'lis, *oval.*
Ova'tus, *egg-ſhaped.*
Pa'gina, *ſurface.*
Pala'tum, *palate.*
Pa'lea, *chaff.*
Palea'ceus, *chaffy.*
Palma'tus, *hand-ſhaped.*
Panduriformis, *fiddle-ſhaped.*
Panic'ula, *panicle.*
Panicula'tus, *panicled.*
Papiliona'ceus, *butterfly-ſhaped.*
Papillo'ſus, *pimpled.*
Pap'pus, *feather.*
Paralle'lus, *parallel.*
Paraſi'ticus, *paraſitical.*
Partia'lis, *partial.*
Parti'tus, *divided.*
Pa'tens, *expanding.*
Pat'ulus, *open.*
Peda'tum (fol.) *birds-footed.*
Pedicel'lus, *little fruit-ſtalk.*
Peduncula'ris, *belonging to a fruit-ſtalk.*
Peduncula'tus, *growing on fruit-ſtalks.*
Pedun'culus, *fruit-ſtalk.*
Pelta'tum (fol.) *with a leaf-ſtalk fixed in the centre of a leaf.*
Pelta'tum, *target-ſhaped.*
Pencilliformis, *pencil-ſhaped.*
Pen'dulus, *pendant.*
Pentago'nus, *five-ſided.*
Pentagyn'ia, *five pointals.*
Pentan'dria, claſs 5, *five chives.*
Pentapet'ala, *five petals.*
Pentaphyl'lus, *five-leaved.*
Peren'nis, *perennial.*
Perfolia'tus, *perforated* (leaf.)
Perian'thium, *cup.*
Pericar'pium, *ſeed-veſſel.*
Perichæ'tium, *receptacle of moſſes.*
Perſiſ'tens, *permanent.*
Perſona'tus, *gaping.*
Pet'alum, *petal.*
Petaliformis, *reſembling a petal.*
Petiola'ris, *fixed to the leaf-ſtalk.*
Petiola'tus, *having leaf-ſtalks.*
Peti'olus, *leaf-ſtalk.*
Pil'eus, *hat.*
Pi'li, *hairs.*
Pilo'ſus, *hairy.*
Pinnatif'idus, *with winged clefts.*
Pinna'tus, *winged.*
Piſtil'lum, *pointal.*
Pla'nus, *flat.*
Ple'nus flos, *double bloſſom.*
Plica'tus, *plaited.*
Pluma'tus, *plumed.*
Plumo'ſus, *downy.*
Plu'mula, *the aſcending part of the heart of a ſeed*
Pol'len, *duſt.*
Polyadel'phia, claſs 18, *threads in many ſets.*
Polyan'dria, claſs 13, *many chives.*
Polyga'mia, claſs 23, *various diſpoſitions.*

Poly-

Polygyn'ia, *many pointals.*
Polyphyl'lus, *many-leaved.*
Polyſta'chius, *many ſpiked.*
Po'mum, *apple*; a fleſhy ſeed-veſſel.
Po'ri, *pores.*
Poſ'ticus, *hinder part.*
Præmor'ſus, *bitten.*
Priſmat'icus, *priſm-ſhaped.*
Procum'bens, *trailing.*
Pro'lifer, *headed ſtem.*
Prolif'eri flores, *one growing out of another*
Promin'ulum, *prominent.*
Propa'go, *off-ſet.*
Pro'prius, *individual bloſſom.*
Pu'bes, *cloathing.*
Pulpo'ſus, *pulpy.*
Pulvera'tus, *duſted.*
Punĉta'tus, *dotted.*
Quina'tum (fol.) *by fives.*
Race'mus, *bunch.*
Ra'chis, *ſpike-ſtalk.*
Radia'tus, *radiate.*
Radica'lia (fol.) *root-leaves.*
Rad'icans, *ſtriking root.*
Ra'dius, *circumference.*
Ra'dii, *ſpokes.*
Ra'dix, *root.*
Ra'meus, *a branch-leaf, or fruit-ſtalk.*
Ramoſiſ'ſimus, *greatly branched.*
Ramo'ſus, *branching.*
Ra'mus, *branch.*
Receptac'ulum, *Receptacle.*
Reclina'tus, *curved.*
Recurva'tus, *bent backwards.*
Rec'tus, *ſtraight.*
Reflex'us, *reflected.*
Regula'ris, *regular.*
Remo'tus, *remote.*
Renifor'mis, *kidney-ſhaped.*
Repan'dus, *ſerpentine.*
Re'pens, Rep'tans, } *creeping.*
Reſupina'tus, *lying on its back.*
Retror'ſum ſinua'tum, *barbed.*
Retror'ſum ſerra'tum, *inverſely ſerrated.*
Retrofrac'tus, *bent back as if broken.*
Retu'ſus, *indented.*
Revolu'tus, *rolled back.*
Rhombe'us, *diamond-ſhaped.*
Rig'idus, *inflexible.*
Rimo'ſus, *abounding with chinks.*
Rin'gens, *gaping.*
Roſtel'lum, *the deſcending part of the heart of a ſeed.*
Roſ'trum, *bill.*
Rota'tus, *wheel-ſhaped.*
Rugo'ſus, *wrinkled.*
Runcina'tus, *notched.*
Sagitta'tus, *arrow-ſhaped.*
Sarmento'ſus, *having runners.*
Sca'ber, *rough.*
Scan'dens, *climbing.*
Sca'pus, *ſtalk.*
Scario'ſus, *ſkinny.*
Scrotifor'mis, *purſe-ſhaped.*
Scutel'lum, *a ſaucer.*
Scy'phifer, *cup-bearing.*
Secun'dus, *pointing one way.*
Securifor'mis, *hatchet-ſhaped.*
Se'men, *ſeed.*
Semite'res, *ſemi-cylindrical.*
Sempervi'rens, *evergreen.*
Se'nis, *by ſixes.*
Seric'eus, *ſilky.*
Serra'tus, *ſerrated.*
Seſ'ſilis, *ſitting.*
Seta'ceus, *briſtly.*
Se'tæ, *briſtles.*
Silic'ula, *pouch.*
Sil'iqua, *pod.*
Sim'plex, *ſimple.*
Simplicif'ſimus, *undivided.*
Sinua'tus, *indented.*
Sol'idus, *ſolid.*
Solita'rius, *ſolitary.*
Spa'dix, *ſheathed fruit-ſtalk.*

Spar'ſus,

Spar'ſus, *ſcattered.*
Spa'tha, *ſheath.*
Spathula'tus, *ſpatula-ſhaped.*
Spi'ca, *ſpike.*
Spic'ula, *a little ſpike.*
Spi'na, *thorn.*
Spineſ'cens, } *thorny.*
Spino'ſus, }
Spira'lis, *ſpiral.*
Squama'tus, *ſcaly.*
Squamo'ſus, *ſcaly.*
Squarro'ſus, *ſcurfy.*
Stam'ina, *chives.*
Stamin'eus flos. *barren flower.*
Stella'tus, *ſtarry.*
Ster'ilis, *barren.*
Stig'ma, *ſummit.*
Stim'uli, *ſtings.*
Sti'pes, *pillar.*
Stipita'tus, *ſtanding on a pillar.*
Stip'ula, *prop.*
Stolo'nes, *ſuckers.*
Stolonif'erus, *having ſuckers.*
Stria'tus, *ſcored.*
Stric'tus, *very ſtraight.*
Strigo'ſus, *ſtrong lance-ſhaped briſtles.*
Strob'ilus, *cone.*
Sty'lus, *ſhaft.*
Subdivi'ſus, *ſubdivided.*
Submer'ſus, *growing beneath the ſurface of the water.*
Subramo'ſus, *a little branched.*
Subrotun'dus, *circular.*
Subula'tus, *awl-ſhaped.*
Suffrutico'ſus, *ſomewhat woody.*
Sulca'tus, *furrowed.*
Super'fluus, *ſuperfluous.*
Su'perus, *ſuperior.*
Supradecompoſ'itus, *more than doubly compound.*
Sutu'ra, *Seam.*
Syngene'ſia, claſs 19, *tips united.*
Te'res, *cylindrical.*
Tergem'inus, *double twinfork.*
Termina'lis, *terminating.*
Terna'tus, *threefold.*
Ter'nus, *growing by threes.*
Tetradyna'mia, claſs 15, *four chives longer.*
Tetrago'nus, *four-cornered.*
Tetragyn'ia, *four pointals.*
Tetran'dria, claſs 4, *four chives.*
Thyr'ſus, *cluſter.*
Tomento'ſus, *downy.*
Tomen'tum, *down.*
Toro'ſus, *protuberating.*
Tor'tilis, *twiſted.*
Tranſver'ſum, *tranſverſe.*
Trapezifor'mis, *irregular ſquare.*
Trian'dria, claſs 3, *three chives.*
Triangula'ris, *triangular.*
Tricoc'cus, *three ſeeds in three cells.*
Tricuſpida'tus, *three-pointed.*
Trigo'nus, *three-edged or cornered.*
Trigyn'ia, *three pointals.*
Trinerva'tus, *three-fibred.*
Triner'vis, *with three fibres.*
Triparti'tus, *with three diviſions.*
Tripinna'tus, *triply winged.*
Tripliner'vium, *three-fibred.*
Tri'queter, *three-ſquare.*
Triterna'tus, *triply threefold.*
Trunca'tus, *lopped.*
Trun'cus, *trunk.*
Tuber'culus, *tubercle.*
Tubero'ſus, *tuberous.*
Tubulo'ſus, *tubular.*
Tu'bus, *tube.*
Tunica'tus, *coated.*
Turbina'tus, *turban-ſhaped.*
Tur'gidus, *ſwollen.*
Umbel'la, *rundle.*
Umbel'lula, *Rundlet.*
Umbilica'tus, *dimpled.*
Uncina'tus, *hooked.*
Unda'tus, *waved.*
Un'guis, *claw.*
U'nicus, *ſingle.*

Uniflo'rus,

Uniflo'rus, *having but one flower.*
Unilatera'lis, *growing only from one side.*
Univerſa'lis, *general.*
U'rens, *ſtinging.*
Utric'ulus, *little bag.*
Vagi'nans, *ſheathing.*
Val'vula, *valve.*
Veno'ſus, *full of veins.*
Ventrico'ſus, *diſtended.*
Verruco'ſus, *warty.*
Verſat'ilis, *vane-like.*
Verticilla'tus, *whorled.*
Verticil'li, *whorls.*
Vexil'lum, *ſtandard.*
Vil'li, *ſoft hairs.*
Villo'ſus, *woolly.*
Virga'tus, *rod-ſhaped.*
Viſ'cidus, *clammy.*
Viſcoſ'itas, *clammineſs.*
Vivip'arus, *viviparous.*
Volu'bilis, *twining.*
Vol'va, *ruffle.*

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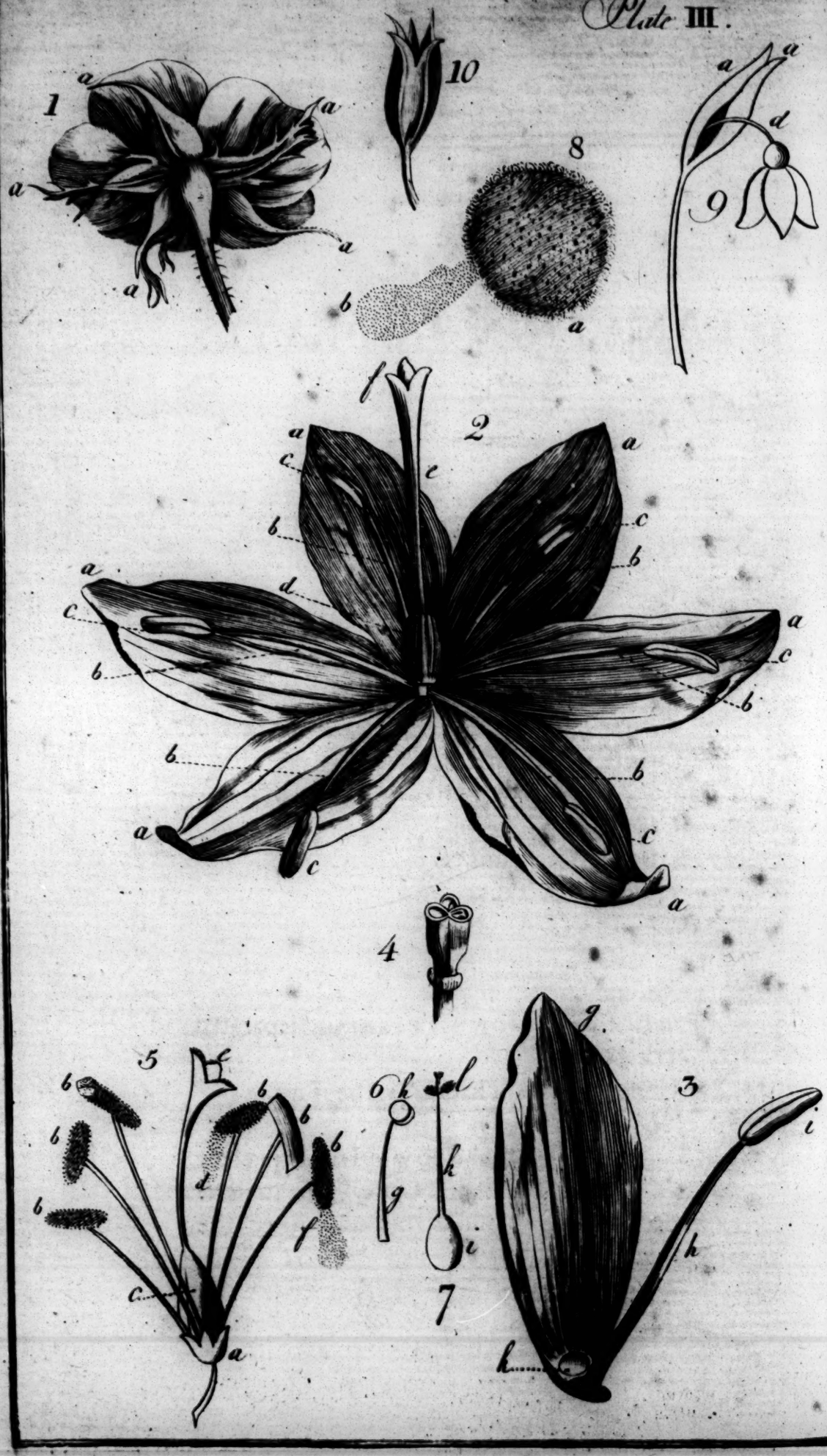
Plate III.



AN

EXPLANATION *of the* PLATES.

PLATE III.

PARTS *compoſing a* FLOWER.

FIG. 1. A back View of a ROSE, to ſhew the *Empalement*, or *flower Cup*. *a. a. a. a. a*, the Segments of the Cup.

FIG. 2. A figure of the CROWN IMPERIAL, to ſhew
a. a. a. a. a. a, the Petals.
b. b. b. b. b. b, the Chives.
c. c. c. c. c. c, the Tips.
d, the Seed-bud.
e, the Shaft.
f, the Summit.

FIG. 3. *g*, a Petal of the CROWN IMPERIAL, ſeparated from the Flower.
h. i, a Chive. *h*, the Thread. *i*, the Tip.
k, a Honey-cup Pore.

FIG. 4. The Seed-veſſel of the CROWN IMPERIAL cut a-croſs, to ſhew the three Cells. During the exiſtence of the Bloſſom this was called the Seed-bud.

PLATE III.

FIG. 5. A Flower with the Empalement, the Chives, and the Pointal; but the *Petals* taken away.
a, the Empalement, or Cup.
b. b. b. b. b. b, the Tips of the Chives.
c, the Seed-bud.
d, the Shaft.
e, the Summit.
f, one of the Tips diſcharging its duſt.

FIG. 6. *g. h*, a Chive taken out of a Flower.
g, the Thread. *h*, the Tip, which, in this inſtance, is double.

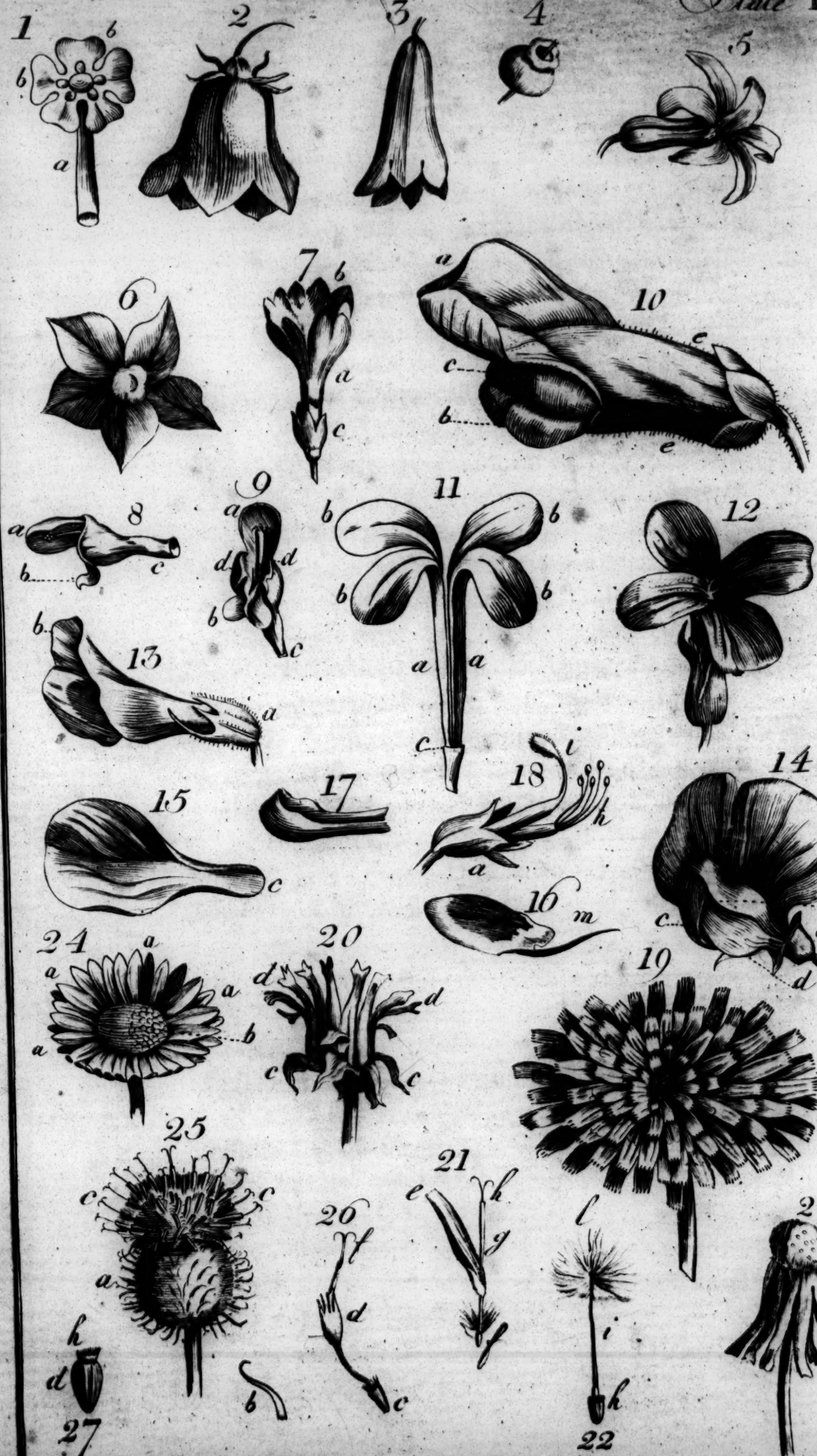
FIG. 7. *i. k. l*, a Pointal taken out of a Flower. *i*, the Seed-bud. *k*, the Shaft. *l*, the Summit.

FIG. 8. *a*, a Particle of Duſt greatly magnified. *b*, the vapour eſcaping from it, which is ſuppoſed to paſs thro' the Pointal to fertilize the Seed-bud.

FIG. 9. A Daffodil and its ſheathing Empalement. *a. a*, the Sheath. *d*, the ſheathed Fruit-ſtalk.

FIG. 10. A Cup, which is the Empalement of a Polyanthus, with five ſharp teeth in the rim.

Plate IV.



BLOSSOMS.

FIG. 1. A Bloſſom of one Petal; ſalver-ſhaped.
a, the Tube. *b. b*, the Border.

FIG. 2. A bell-ſhaped Bloſſom.

FIG. 3. A tubular bell-ſhaped Bloſſom.

FIG. 4. A Bloſſom bell-ſhaped, but diſtended.

FIG. 5. A Bloſſom with ſix reflected Segments.

FIG. 6. A back view of a wheel-ſhaped Bloſſom, to ſhew the ſhortneſs of the Tube.

FIG. 7. A funnel-ſhaped Bloſſom. *a*, the Tube. *b*, the Border. *c*, the Cup.

FIG. 8. 9. Gaping Bloſſoms.
a. a, the Upper Lip.
b. b, the Lower Lip.
c. c, the Tube.
d. d, the Mouth.

FIG. 10. A gaping Bloſſom. *a*, the Upper Lip. *b*, the Lower Lip. *c*, the Palate.

FIG. 11. A croſs-ſhaped Bloſſom, with the cup taken away, to ſhew *a. a*, the Claws of the Petals. *b. b. b. b*, the Limbs of the Petals. *c*, the Receptacle.

FIG. 12. A croſs-ſhaped Bloſſom, with the Empalement, or Cup. *a. a. a. a*, the Petals. *b*, the Cup, hunched at the Baſe.

FIG. 13. 14. Two views of butterfly-ſhaped Bloſſoms. *a. a*, the Cups. *b. b*, the Standards. *c. c*, the Wings. *d*, the Keel.

FIG. 15. The Standard of a butterfly-ſhaped Bloſſom ſeparated from the other Petals. *c*. the Claw.

FIG. 16. One of the Wings of a butterfly-ſhaped Bloſſom ſeparated from the other Petals. *m*. the Claw.

FIG. 17. The Keel, or lowermoſt petal of a butterfly-ſhaped Bloſſom ſeparated from the other Petals.

FIG. 18. The Cup, Chives, and Pointal, of a butterfly-ſhaped Bloſſom, after the Petals are taken away.
a, the Cup. *h*, the Chives. *i*, the Pointal.

PLATE IV.

COMPOUND FLOWERS.

FIG. 19. A Flower of DANDELION, as an example of a compound Flower in which all the Florets are ſtrap-ſhaped.

FIG. 20. The common Empalement of a compound Flower, compoſed of upright Scales *d. d*; and reflected Scales *c. c.*

FIG. 21. A ſtrap-ſhaped Floret taken out of a compound Flower. *e*, the Bloſſom. *f*, the Seed-bud. *g*, the Tips forming a hollow Cylinder, thro' which paſſes the Pointal, with the two reflected Summits *h*.

FIG. 22. *k*, the Seed of a compound Flower. *i*, the Pillar ſupporting the downy Feather, *l*.

FIG. 23. A naked, dotted Receptacle of a compound Flower. *a*, the Receptacle. *b*, the Empalement reflected.

FIG. 24. The Flower of a DAISIE, as an example of a *Radiate* compound Flower. *a. a. a. a*, the ſtrap-ſhaped Florets in the Circumference. *b*, the tubular Florets in the Centre.

FIG. 25. The Flower of BURDOCK, as an example of a compound Flower in which all the Florets are tubular. *a*, the ſcaly tiled Empalement. *b*, one of the Scales with its hooked Point. *c. c.* the tubular Florets.

FIG. 26. One of the tubular Florets ſeparated from the reſt. *d*, the Bloſſom. *c*, the Seed-bud. *f*. the Pointal.

FIG. 27. One of the ſeeds. *d*, the pyramidal ſeed, crowned by the ſhort Feather *h*.

PLATE

B L

Plate V.

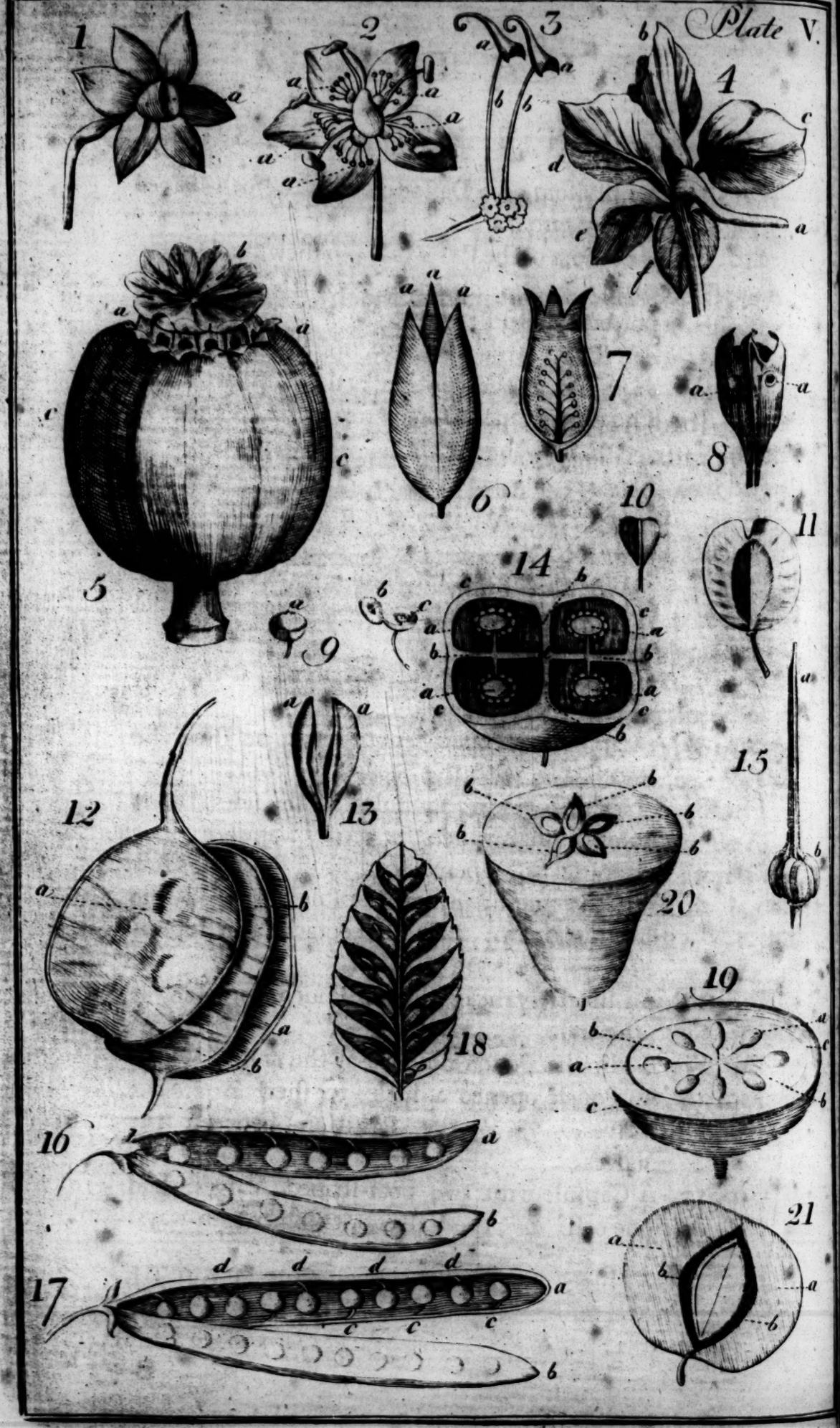


PLATE V.

HONEY-CUPS.

FIG. 1. The Bloſſom of a Daffodil, with the bell-ſhaped Honey-cup *a*.

FIG. 2. The Bloſſom of the PARNASSIA to ſhew the Honey-cups *a. a. a. a. a.* which are little globes ſupported upon Pillars.

FIG. 3. *a. a*, The Horned Honey-cups of the WOLFSBANE. *b. b*, the Foot-ſtalks that ſupport them.

FIG. 4. *a*. The horn-ſhaped Honey-cup of the LARKSPUR. *b. c. d. e. f*, the Petals.

SEED-VESSELS.

FIG. 5. *c. c*, The globular Capſule of a POPPY. *a. a*, the holes through which the Seeds eſcape. *b*, the radiated ſummit.

FIG. 6. A Capſule with three Valves, opening at the top. *a. a. a*, the Valves.

FIG. 7. A Capſule cut open length-ways, to ſhew the Receptacle, with the Seeds fixed to it.

FIG. 8. A Capſule opening by holes at the ſides. *a, a*, holes through which the Seeds eſcape.

FIG. 9. A Capſule that opens like a ſnuff box, or as if it was cut round. *a*, the Capſule entire. *b*, the Capſule open. *c*, the Receptacle as it appears after the Seeds are removed.

FIG. 10. An inverſely heart-ſhaped Pouch, notched at the end.

FIG. 11. A circular Pouch notched at the end.

FIG. 12. A Pouch opened a little to ſhew *a. a*, the Valves. *b. b*, the Partition between the Valves.

FIG. 13. A Capſule with two boat-ſhaped Valves, and one cell. *a. a*, the Valves opening length-ways.

FIG. 14. A Capſule cut open horizontally to ſhew *c. c. c. c*, the Valves. *b. b. b. b*, the Partitions. *d*, the Column in the Centre to which the Partitions are connected. *a. a. a. a*, the Receptacles and Seeds.

FIG. 15. Seeds of Geranium, with a long Bill. *b*, the Seeds. *a*. the Bill.

FIG. 16. A Shell, or Seed-veſſel, of two Valves, in which the Seeds are fixed to the upper Seam only. *a. b*, the Valves.

FIG. 17. A Pod, or Seed-veſſel of two Valves, in which the Seeds are fixed to the two Seams alternately
a. b, the Valves. *d. d. d. d. c. c. c*, the Seeds.

FIG. 18. A Cone, cut through length-ways, to ſhew the Scales and the Seeds.

FIG. 19. A Berry cut acroſs to ſhew *a. a*, the Seeds. *b. b*, the Pulp. *c. c*, the Coat.

FIG. 20. A fleſhy Capſule, or Apple, cut acroſs to ſhew *b. b. b. b. b*, the five Cells.

FIG. 21. A pulpy Seed-veſſel cut acroſs. *a. a*, the pulpy part. *b. b*, the Nut or Stone.

PLATE VI.

SEEDS.

FIG. 1. The Seed-veſſel of the Spindle-tree, to ſhew the Seed-coat. *a. a*, the Valves of the Capſule. *b*, a Seed. *c. c*, the Seed-coat opened to ſhew the Seed.

FIG. 2. A Seed with its Feather.
a, a hairy Feather. *b*, a downy Feather.
d, the Pillar ſupporting the Feather. *c*, the Seed.

FIG. 3. The Seed of a Bean ſplit in two, after being ſoaked a little while in water, to ſhew
a. a, the Seed-lobes.
b, the Heart.
c, the deſcending part of the Heart.
d, the aſcending part of the Heart.
e, the Eye.

FRUIT-STALKS.

FIG. 4. A Stalk. It ſupports the Flowers, and ſprings directly from the Root.

FIG. 5. A Spike. *a. b. c. d*, the Spikelets, or little Spikes.

FIG. 6. A Panicle.

FIG. 7. A broad-topped Spike. *a. a. a. a. a. a*, the little Fruit-ſtalks.

FIG. 8. A Bunch.

FIG. 9. A Rundle. *b. b. b. b*, Rundlets. *c. c*, the General Fence. *d. d. d. d*, the Partial Fence. *e. e. e. e*, the Spokes of the Rundle.

FIG. 10. A Tuft.

FIG. 11. Whorls of Flowers. *a. a. a*, the Whorls.

FIG. 12. A Catkin.

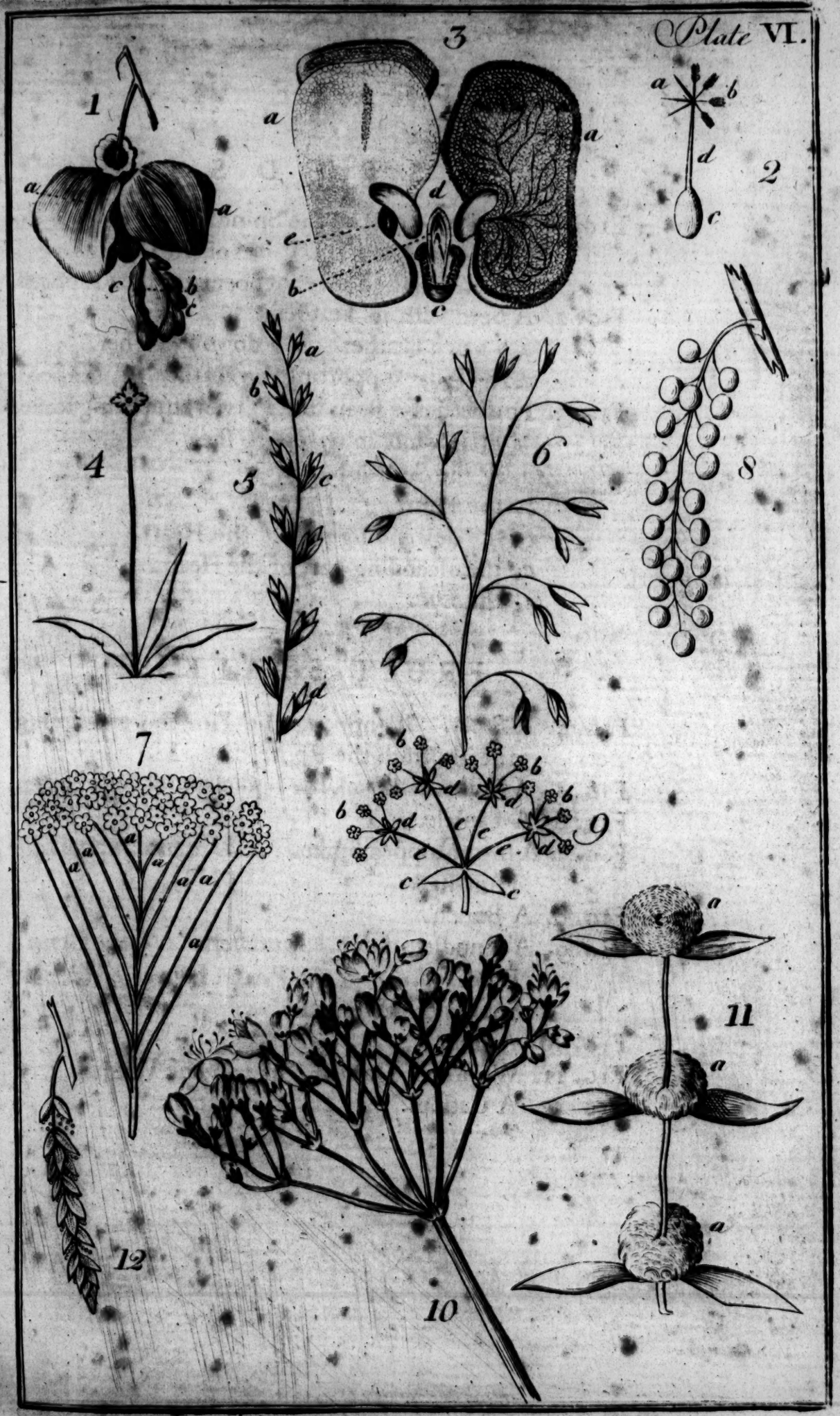


Plate VI.
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PLATE VII.

LEAVES.

FIG.

1 Round.
2 Circular.
3 Egg-ſhaped.
4 Oval.
5 Oblong.
6 Spear-ſhaped.
7 Strap-ſhaped.
8 Awl-ſhaped.
9 Kidney-ſhaped.
10 Heart-ſhaped.
11 Creſcent-ſhaped.
12 Triangular.
13 Arrow-ſhaped.
14 Between heart and arrow ſhaped
15 Halberd-ſhaped.
16 Notched at the end.
17 Conſiſting of 3 Lobes.
18 Bitten.
19 Gaſhed.
20 With five angles.
21 Gnawed.
22 Hand-ſhaped.
23 With winged Clefts.
24 Jagged.
25 Indented.
26 Toothed and indented.

FIG.

27 Barbed.
28 Divided.
29 Serpentine at the edge.
30 Toothed.
31 Serrated.
32 Doubly ſerrated.
33 Doubly ſcolloped.
34 Sharply ſcolloped.
35 Bluntly ſcolloped.
36 Sharply notched at the end.
37 Plaited.
38 Scolloped.
39 Blunt.
40 Sharp.
41 Tapering to a point.
42 Blunt but ending in a point.
43 Fringed.
44 Venous, or full of veins.
45 Triangularly ſpear-ſhaped
46 Stringy.
47 Growing by threes upon leaf-ſtalks.
48 Fingered.
49 Shaped like a bird's-foot
50 In pairs.
51 Three-fold.

Plate VII

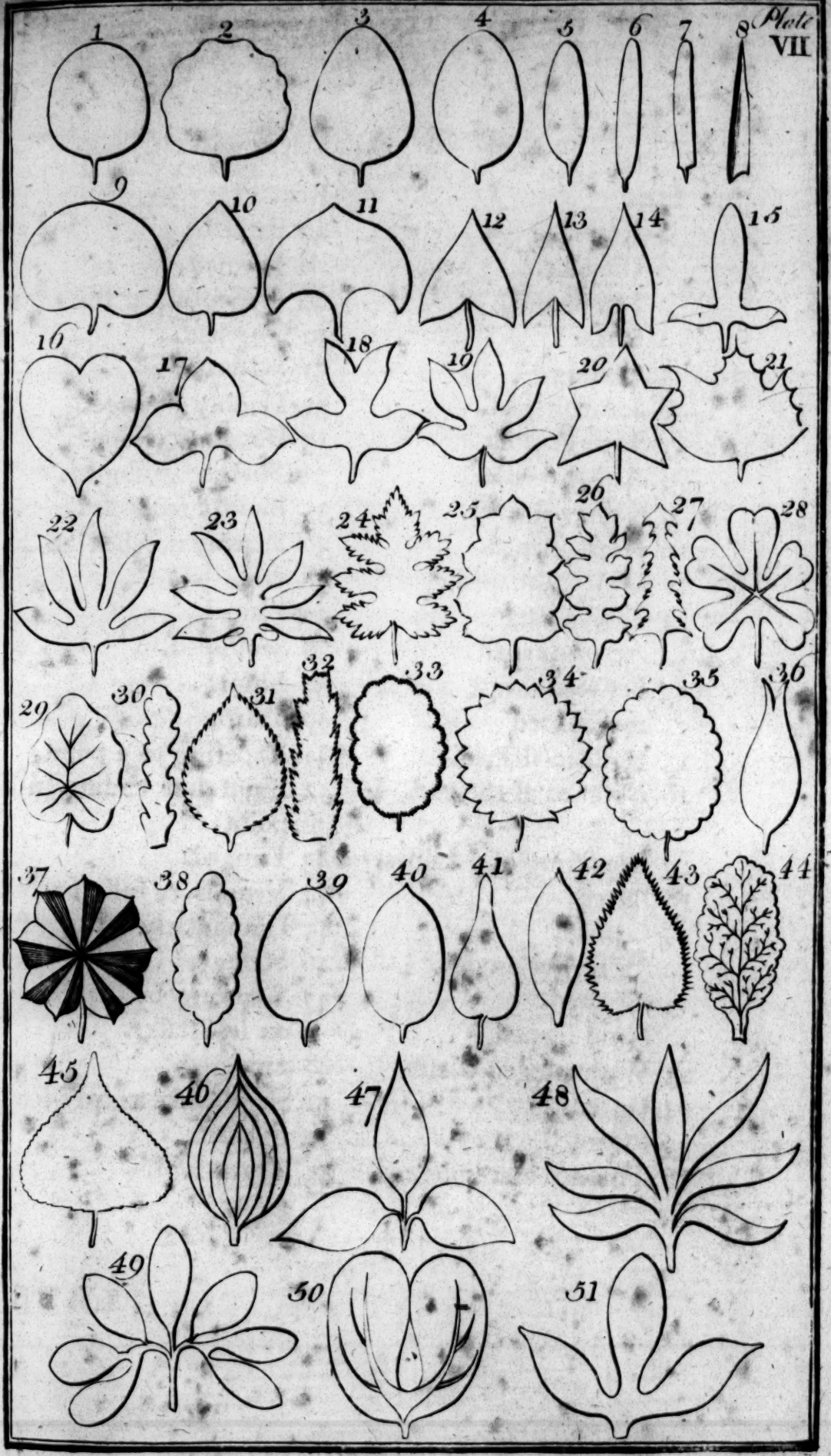
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PLATE VIII.

LEAVES.

FIG.

52 Winged, with an odd leafit at the end.
53 Abruptly winged.
54 Winged, with the leafits alternate.
55 Interruptedly winged.
56 Doubly winged
57 Doubly three-fold.
58 Winged, and terminated by a tendril.
59 Triply three-fold.
60 Triply winged, without an odd leafit at the end.

FIG.

61 Triply winged, with an odd leafit at the end.
62 Lyre-ſhaped.
63 Lopped at the end.
64 Spatula-ſhaped.
65 Wedge-ſhaped.
66 Waved at the edge.
67 Curled
68 Cylindrical.
69 Inverſely heart ſhaped.

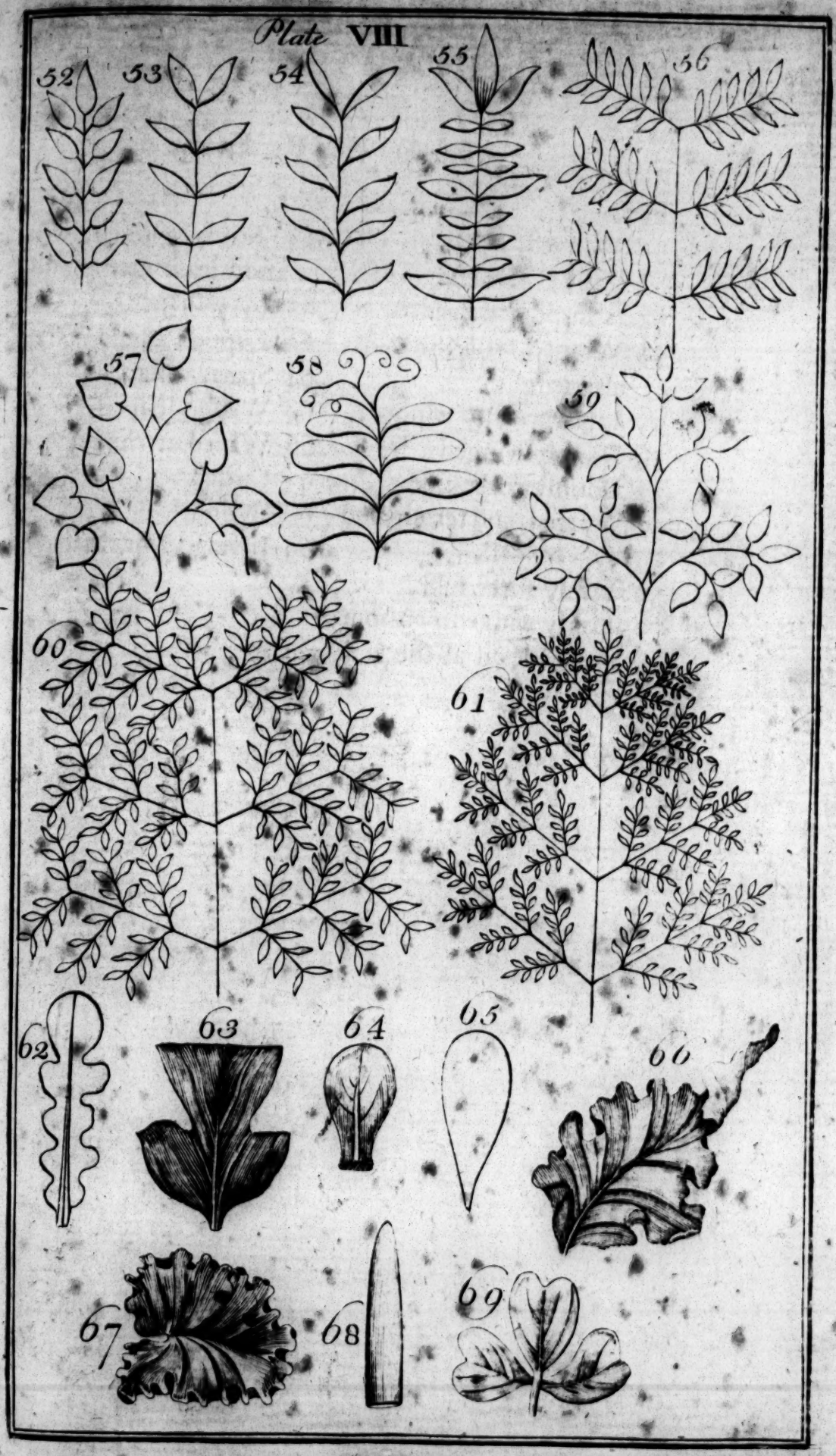
Plate VIII
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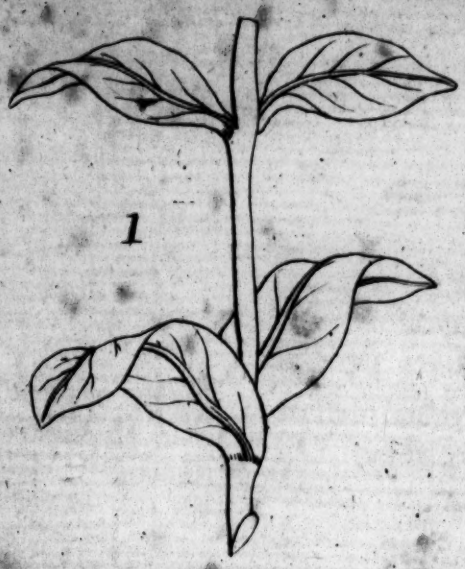
PLATE IX.

Diſpoſition and Direction of Leaves.

Fig. 1. Leaves in croſs pairs.
Fig. 2. Tiled Leaves.
Fig. 3. *a*, a jointed Leaf.
b. b, Starry Leaves.
c. c, Leaves growing by fours.
d. d. d. d. d, Leaves alternate. In fig. 5. all the Leaves are oppoſite.
e, Chaffy Leaves.
f, Leaves in a bundle.
Fig. 4. *a*, A Leaf with a central Leaf-ſtalk.
b, a Leaf with its Leaf-ſtalk, *c*.
d, a ſitting Leaf.
e, a Leaf running along the Stem.
f, a Leaf embracing the Stem.
g, a perforated Leaf.
h. h, Twin Leaves.
i, a Leaf ſheathing the Stem.
Fig. 5, *a. a*, Leaves bent inwards.
b. b, Leaves upright.
c. c, Leaves expanding.
d. d, Leaves horizontal.
e. e, Leaves curved.
f. f, Leaves rolled back.
m, a Fruit-ſtalk riſing from the baſe of the Leaf.
Fig. 6. Leaves contiguous to the Stem.
Fig. 7. Root-leaves. *a*, the root. *b. b. b*, the leaves riſing immediately out of it, without the intervention of any Stem.
Fig. 8. *a. a*, Floral Leaves; different from *b. b.* the other Leaves of the plant. *c*, a Fruit-ſtalk.

Plate IX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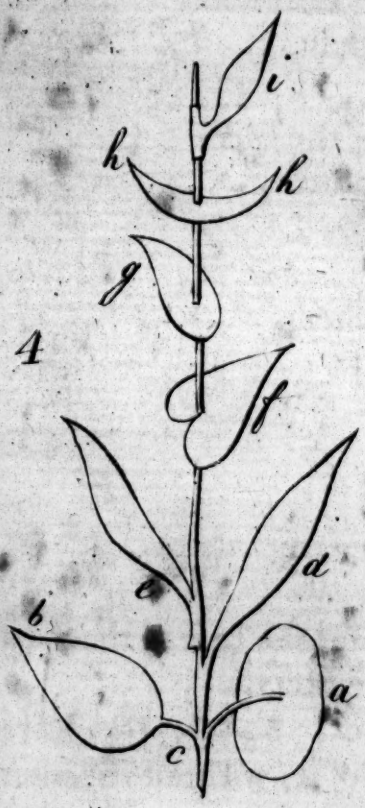
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PLATE X.

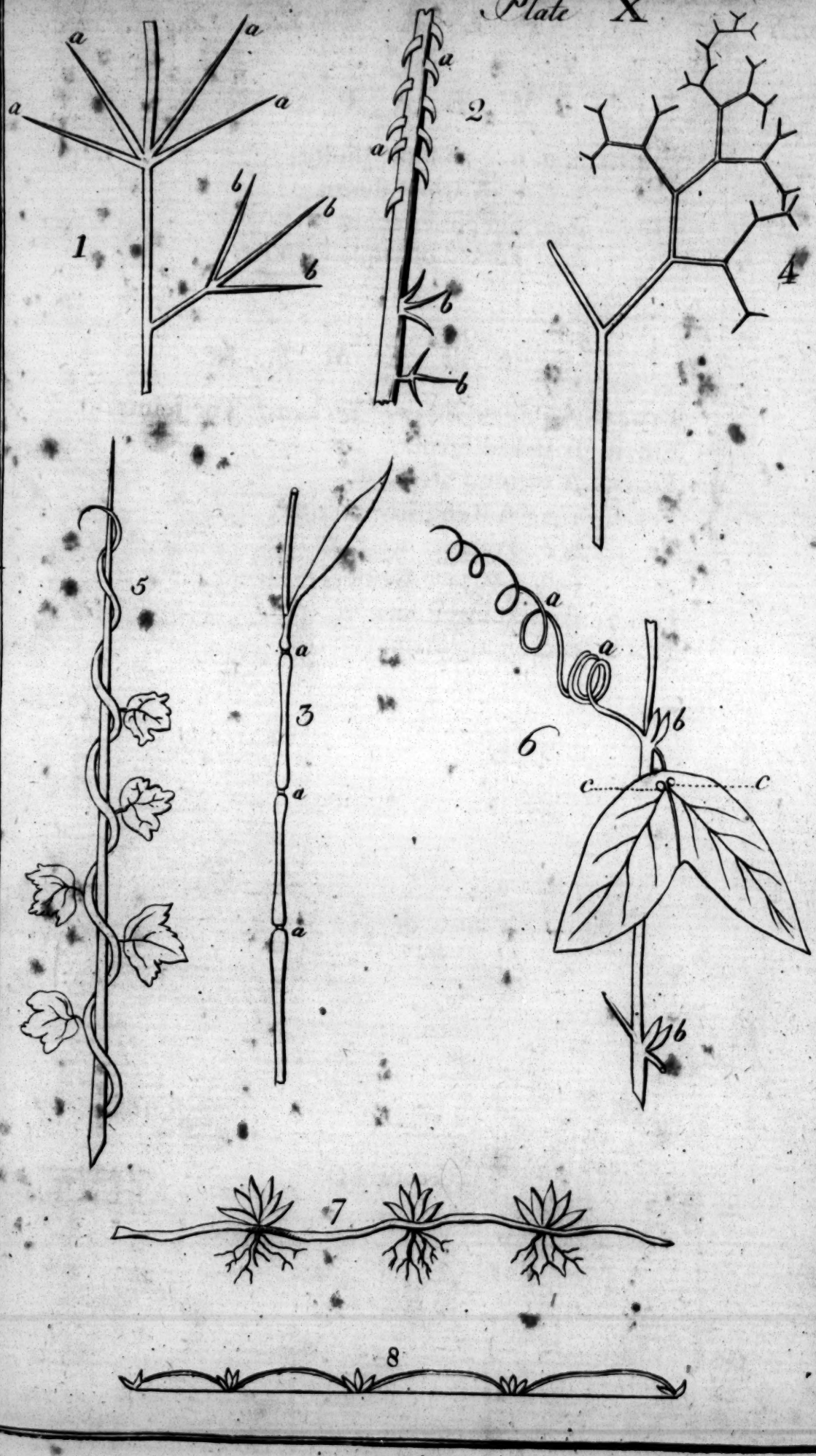
WEAPONS.

FIG. 1. *a. a. a. a,* Simple thorns.
b. b. b, A triple thorn.
FIG. 2. *a. a,* Simple Prickles.
b. b, Forked or triple Prickles.

STEMS, &c.

FIG. 3. A jointed Straw. *(a. a. a.)* The Joints.
FIG. 4. A forked Stem.
FIG. 5. A twining Stem.
FIG. 6. *a. a,* A Tendril.
b. b, Props.
c. c, Concave Glands.
FIG. 7. A creeping Root.
FIG. 8. A creeping Stem.

Plate X



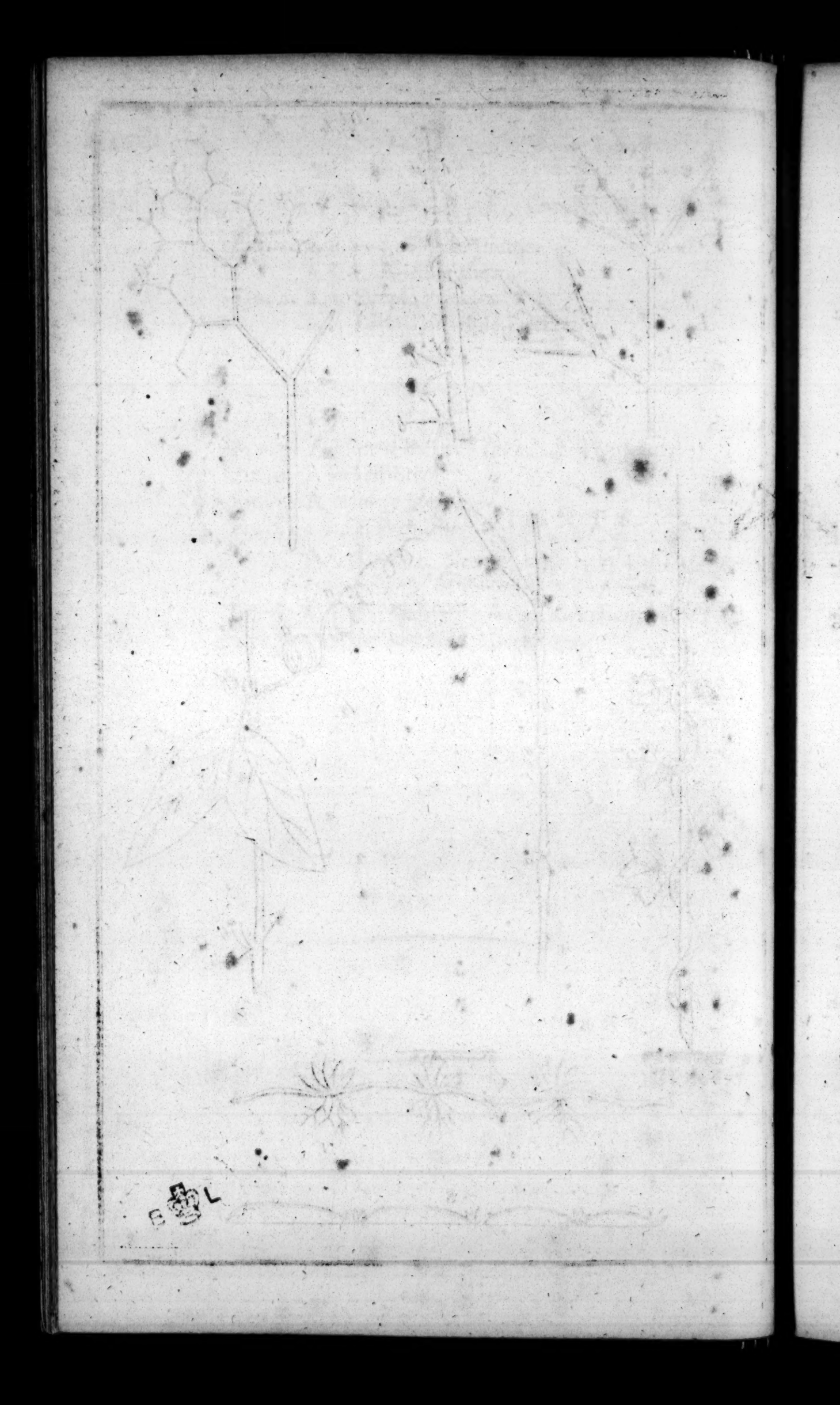


PLATE XI.

FIG. 1. *a. a. a. a,* Glands ſupported upon Foot-ſtalks.

ROOTS.

FIG. 2. A coated bulbous Root, cut a-croſs, to ſhew the Coats which compoſe it.
FIG. 3. A ſolid bulbous Root.
FIG. 4. A ſcaly bulbous Root.
FIG. 5. A branching Root.
FIG. 6. A ſpindle-ſhaped Root.
FIG. 7. A tuberous Root.

INSTRUMENTS.

FIG. 8. Two Diſſecting Needles, with ivory handles, belonging to the Botanical Microſcope.
FIG. 9. A pair of Spring Plyers for diſſection, belonging to the Botanical Microſcope.

Plate XI

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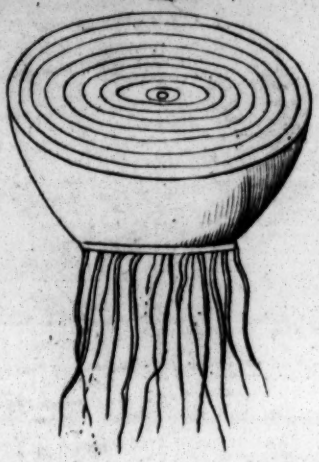
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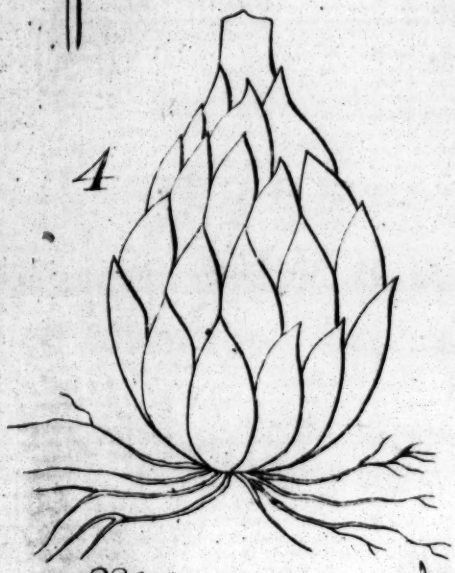
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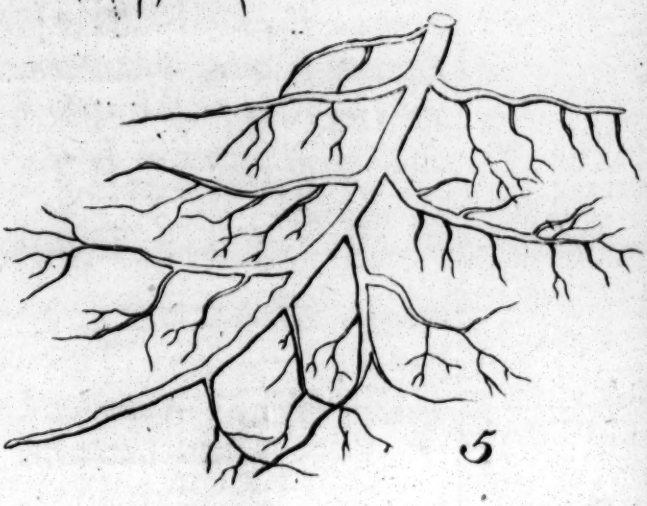
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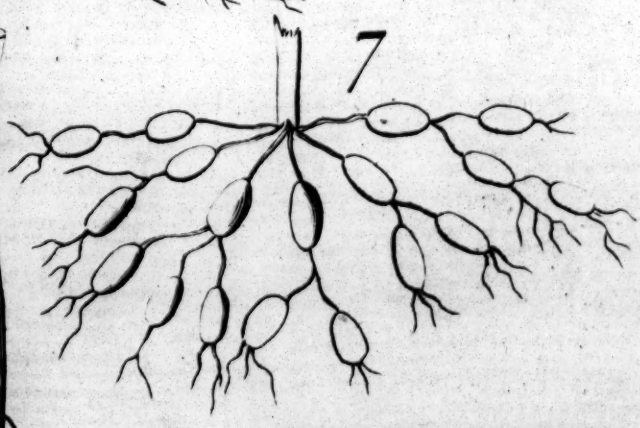
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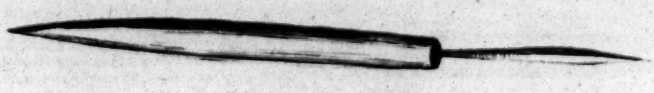
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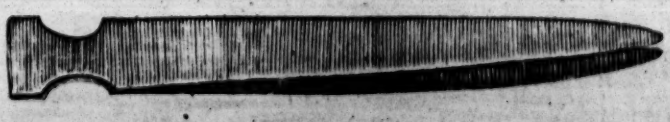
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PLATE XII.

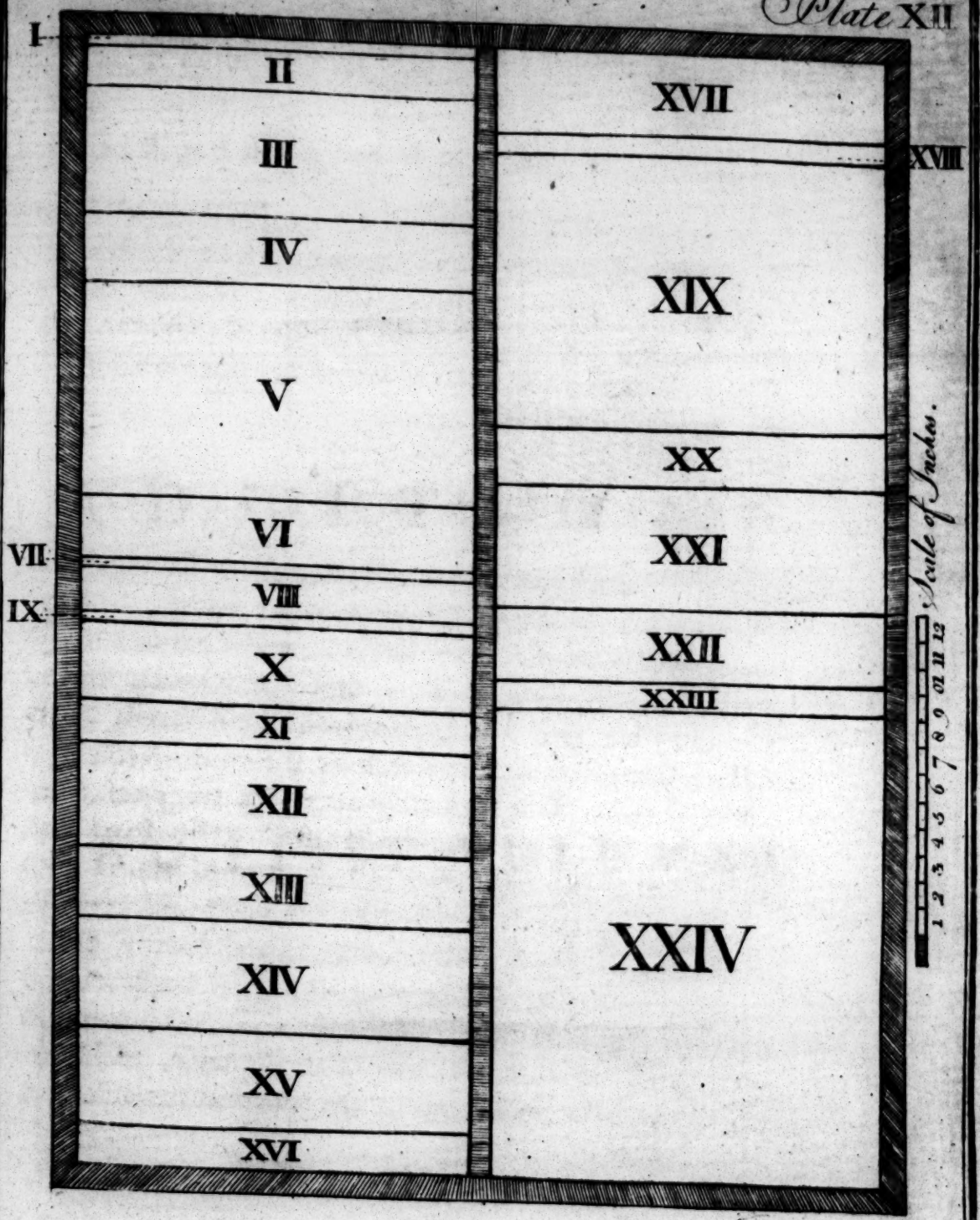
HORTUS SIC'CUS or HERBA'RIUM.

A Section of a Cabinet for the preſervation of dried ſpecimens of plants. The numbers denote the drawers appropriated to the different Claſſes. The ſize of the drawers, is proportioned to the number of plants in each Claſs. They are calculated to contain ſpecimens of all the Britiſh Vegetables.

BOTANICAL MICROSCOPE.

The Microſcope figured in this plate having been found to occupy too much ſpace in the pocket, to ſtand too unſteady when in uſe, and to have the handles of the inſtruments too ſhort; another inſtrument is now ſold by the publiſher, and may be had from the different booksellers, price 10s. 6d. in which all theſe inconveniencies are obviated. The ſeparate glaſs in the ivory cell is intended to be uſed as a hand magnifier. The fixed glaſs at the top of the inſtrument is to be turned round until its focus be properly adjuſted to the object laid upon the ſtage, and a diſtinct viſion obtained; and then if diſſection is requiſite, it may be done with great ſteadineſs and exactneſs, by holding one of the diſſecting inſtruments in each hand, reſting the elbows upon the table, and looking through the microſcope at the time that the diſſection is performed.

Plate XII



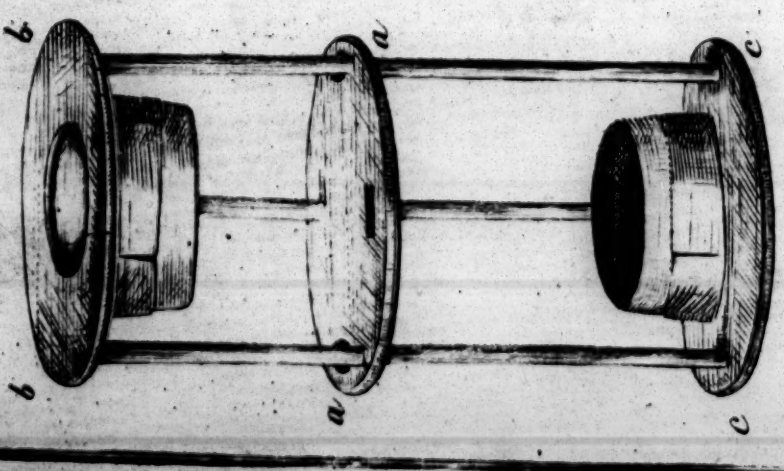


Fig. 2.

ADDITIONS

TO THE

TWO FIRST VOLUMES.

ADDITIONS, &c.

Page 2. HIPPURIS *vulgaris. Thread* on the ſide of the ſummit of the ſeed-bud. *Shaft* on the centre of the ſummit of the ſeed-bud. *Seed-bud* beneath. ST. *from the figure in the Fl. Lond.*

Curt. No. 48.—*Giſeke* 32.—*Fl. dan.* 87.—*Dod.* 113. 2, *repr. in Lob. ic.* i. 792. 2, *and Ger. em.* 1114. 6, *with the ſpike of an Equiſetum added to the left hand ſtem.*—*J. B.* iii. 732, *figure on the left hand the beſt.*—*Ger.* 957. 6, *miſprinted* 953, *cop. in C. B. th.* 243. 4.—*Park.* 1200. 4, *cop. in Brit. herb.* 81.—*Seguier.* i. 2?

—— 3. SALICORNIA *herbacea.* Line 1, *read*, Herbaceous, open. Joints flattened, between nicked and cloven at the end.

Line 3. After *auct.* 598, add, *Baſt.* ii. 10. 3, *a full grown plant; (a) a portion of a branch, B. D. the chive, C. duſt magnified; 1. a plant a fortnight old; 2. a young plant beginning to throw out lateral branches; 4. a branch and a ſection of it when the ſeed is ripe, exhibiting the ſeed-veſſels lying in the ſubſtance of the leaves; C. the ſeed-veſſel, D. the ſeed, and E. the empty ſeed-veſſel.—Matth.*

Line 4. After *Ger.* read *em.* 535. 1, *and cop. in Brit herb.* 83.—*Pet. &c.*

Line 6. Before *Spike*, read, Widely ſpreading, ſcarcely a palm long. LINN.—

Line 6. After *Flowers*, read, in threes, cloſe together, on each ſide of every joint. *Chive* 1. BASTER *in Reich. ſyſt. plant.* but I find no ſuch deſcription of the flowers in the place there cited. ST.

Line 8. *After* blunt, *add*, GER. *prov.*

—— 4. CALLITRICHE *verna*, var. 3. *Ger. em.* 614. 12, *cop. in Park.* 1260. 5?

—— 6. line 6, *add*, Schœnus albus. Schœnus Mariſcus. ST.

—— 7. LIGUSTRUM *vulgare. Curt.* iv. 51 before *Mill.*

—— 9. VERONICA *hybrida.* Ompherhead, a ſteep rock at Cartmell Wells, plentifully. Mr. HALL.

Page

Page 12. VERONICA *Anagallis*. *Curt.* v. 56 before *Ger.*

—— 13. VERONICA *ſcutellata*. *Curt.* v. 56.

—— 15. line 5 from the bottom, add, *Leaves* cut into winged clefts. Mr. WOODWARD.

—— 25. ANTHOXANTHUM *odoratum*. *Mill. ill.* after *Schreb.* *Shafts* appearing before the *chives*, as in Carex and Plantago. SCOP.—*Bloſſ. valves* a long oval, blunt, *Honeycup* ſmooth; one of the leaves egg-ſhaped, the other elliptical. HALL. ST.—*Empal. valves* ſharp-pointed. *Bloſſ.* the *awn* from the valve, which is next to the greater valve of the empalement, riſing even with the empal. and ſometimes a little beyond it. SCHEUCH. ST.—I have, at p. 26, conjectured its ſcent to proceed from the yellow dots on the valves of the empalement, but, on drying the ſpikes and ſtraws ſeparately, I found that the ſtraws afforded the ſcent, while the ſpikes treated exactly in the ſame way afforded no more ſcent than *Bromus ſecalinus*, *Cynoſurus criſtatus*, or *Lolium perenne*. ST.

—— 35. line 10 from the bottom, before *Riv.* read, *Curt.* iv. 47.—Line 7 from the bottom, before *Riv.* read, *Curt.* iv. 47.—After line 11 from the bottom, *add*, *Plant with chives, but pointals imperfect.* In the garden of the Univerſity of Lunden, in Sweden, it produced perfect ſeeds, but whether from an intermixture of hermaphrodite, or female flowers, as has been obſerved in the Hemp and Spinach, was not aſcertained. RETZ. *obſ.* i. p. 10.

—— 37. VALERIANA *Locuſta*. *Curt.* v. 54 before *Dod.*
CROCUS *ſativus α*. *Mill. ill.* *Crocus ſativus β*. *Jacq. auſtr. app.* 36.

—— 40. IRIS *Xiphium*. Line the laſt, after *Ger. em.* 102. *b.* add, *and Park.* 257. 8, *&c. &c.*

—— 41. SCHŒNUS. After Obſ. par. 2, add, And in *Scirpus paluſtris* the two or three lowermoſt are without chives and pointal. ST.

—— 42. line 14, add, *Chives* 2. SCHEUCH.
SCHŒNUS *ferrugineus*. (*H. ox.* viii. 12. 40, *is referred by Mr. Hudſon to Juncus triglumis.*)

—— 43. SCHŒNUS *compreſſus*. *Straws* from below the middle generally leafy, ſmooth, juſt below the ſpike rough. LEERS, ST.

—— 44. line 14, add, *Chives* 2, very rarely 3, oppoſite, upright, only half as long as the pointals. ST.

—— 46. SCIRPUS *paluſtris*. After the character, *add*, LINN. —Summits 2. ST.

Page

Page 46. SCIRPUS *paluſtris α*. *Straws* incloſed below with ſheaths. *Sheaths* generally 2, lopped, the lowermoſt extending upwards, one to one and an half inch, the uppermoſt longer. SCHEUCH. ST.—*Sheaths* leafleſs. *Spike* egg-oblong, pointed. *Scales*, the two lowermoſt oppoſite, blunter, broader, and without chives and pointal. *Shaft* always cloven into two, not three. *Seed* ſurrounded at the baſe with 4 white briſtles ſhorter than the empalement. LEERS, ST.—*Straws* ſeparated at the baſe by taper-pointed ſcales. *Sheaths* lopped obliquely, a brown dot juſt below the point, the uppermoſt riſing from 3 to 5 inches above the root. *Empal. ſcales* egg-oblong, generally the three lowermoſt roundiſh, and without chives and pointal. *Seed-bud* oblong, flatted. *Shaft* with a fleſhy, egg-ſhaped, flatted baſe, fixed on the point of the ſeed-bud, and nearly as large; ſhrivelling as the ſeed-bud enlarges. ST.—In ponds it often covers conſiderable ſpots of ground. ST.

—— 46. SCIRPUS *paluſtris β*. *Pointal* as in *α*. *Scales*, only the two lowermoſt without chives and pointal. ST.

—— 47. SCIRPUS *cæſpitoſus*. *Shaft* juſt ſenſibly larger at the baſe. *Summits* 3. Its ſtructure approaches rather to that of the Schœnus. ST.

SCIRPUS *acicularis*. *Shaft* juſt ſenſibly larger at the baſe. *Summits* 3. ST.

—— 49. SCIRPUS *ſetaceus*. Add to the ſpecific character, Spikes 1 to 4. ST.

—— 50. SCIRPUS *maritimus*. *Curt. No.* 48 *before C. B.*

—— 59. ALOPECURUS *pratenſis*. *Curt.* iv. 50.

ALOPECURUS *bulboſus*. References to figures, after *C. B. th.* 20, inſert, *cop. in Park.* 1176. 2.

—— 60. ALOPECURUS *geniculatus α*. *Curt.* v. 57.—*Fl. dan. &c.*

—— 62. PHLEUM *arenarium*. In ſandy places on the ſea ſhore. [Near the ſea ſide, Yarmouth. Mr. WOODW.] A. July. Aug.

—— 78. line 13, add, This is certainly the *A. montana* at a greater age, and muſt certainly be the ſame plant. WIGGERS.

—— 81. MELICA *uniflora*. *Curt.* iv. 5 before *H. ox.*

—— 82. MELICA *cærulea*. Flouriſhes in the neighbourhood of the copper works at Pary's mountain, in Angleſea, while almoſt every other vegetetable, even Lichens, are injured or deſtroyed. PENN. *wales* ii. 265.

—— 85. POA *aquatica*. *Curt.* v. 56 before *H. ox.*

Page

Page 88. line 24, after *Leers* 6. 1. insert *Anders, (called Poa compressa.)*

—— 89. POA *maritima. Fl. dan.* 251, *a good representation of it.* Mr. Velley, St.—*A specimen of Mr. Velley's gathered at King's Weston, near Bristol, accords with mine which I collected in a journey along the sea coast, and I believe at King's Weston. In mine the panicle is compact, as described by Mr. Hudson; in Mr. Velley's the largest of the branches from each joint retrofracted.* St.

—— 110. BROMUS *giganteus. Curt.* v. 58.

—— 113. AVENA *fatua.* References, line 1, after *Leers*, &c. add, *Mill. ill.—H. ox.*

—— 118. ARUNDO *arenaria.* Newborough, in Anglesea, subsists chiefly by manufacturing it into mats and ropes. Queen Elizabeth, on account of its preventing the winds from driving the sand over the adjoining fields, prohibited the extirpation of it. Penn. *wales* ii. 226.

—— 118. ROTTBOLLIA *incurvata. Stems* branched. *Spike* cylindrical, not thicker than the stem, whence it is not readily observable, unless when in flower. Rav, Mr. Woodward.—*Leaves* short, firm. *Flowering stems* ascending, below whitish, cylindrical and smooth. *Spike* green. *Florets*, one to each joint, alternate. *Empal.* valves strap-spear-shaped, ending in a stiff point, the point lying in a notch of the joint above, stiff, green, furrowed without, white and shining within, one expanding when the dust is ripe. *Blossom* nearly as long as the empalement. *Threads* very short. *Tips* long. Mr. Woodward.

Near Yarmouth. Mr. Crowe.

—— 141. line 7. *Read*, with 5 bristles, as, &c.

—— 153. GALIUM *tricorne. Leaves* rough at the edge with prickles pointing backwards; rib rough with similar, but smaller prickles. *Fruit-stalks* generally single. *Pedicles* with often one leaf at the base. *Flowers*, sometimes all 3, not unfrequently 2, but most commonly only 1 fertile. Mr. Wood.

Plentifully in a limestone soil in the corn fields about Monk Tryston, between Ferrybridge and Selby, and near Weatherby, Yorkshire. Mr. Wood.

—— 156. GALIUM *boreale. Fruit* rough with hairs; hairs upright, not hooked, nor adhering; Linn.—slightly hooked at the end. St.—*Fruit* appearing to the naked eye as covered with a white downy substance. Mr. Wood,

Wood, St.—*Bloſſ.* when freſh, of a beautiful white, but, when dried, turning to a dirty yellow, though gathered in the fineſt day. Mr. Griffith.

[Rocks about the Strid, near Bolton Abbey. Mr. Wood.]

Page 158. ASPERULA *odorata*. Woods in Herts. Mr. Woodw. Near Armingdale Wood by Norwich. Mr. Crowe.

— 159. SHERARDIA *arvenſis*. *Curt.* v. 53 before *Fl. dan.*

— 168. ILEX *Aquifolium*. References. After *Hunt. evel.* 383, add, i. *p.* 262. *ed.* II. and after *Walc.* add *Munt.* 164. 38.—

— 170. SAGINA *procumbens*. References, line 2. *Ger. em.* 567. 5, add, *is Scleranthus perennis.*

— 172. POTAMOGETON *natans*. 1. References. After *Trag.* 688, add, *Mill. ill.*

— 175. POTAMOGETON *pectinatum*. References. *Lob. ic.* i. 790, *repr. in Ger. em. &c.*

POTAMOGETON *ſetaceum*. Leaves ſpear-ſhaped, oppoſite, taper-pointed.

In peaty ditches in Lancaſhire. P. July. Aug.

— 176. POTAMOGETON *puſillum*. Whole *plant* extremely ſlender. *Stem* much branched, ſcored. *Leaves* very narrow, pointed, extremely expanding at the baſe, ſometimes almoſt bent back. *Leaf-ſcales* broader than the leaves, ſhort, membranaceous. *Spike* ſhort. *Flowers* on fruit-ſtalks. Mr. Woodward.

— 188. MYOSOTIS *ſcorpioides*. *Walc.* 5.—

β. Myoſotis paluſtris. Curt. cat. n. 330.

— 196. line 24, *add*, [Fen Banks, Lincolnſh. and Cambridgeſh. intermixed with *Symphytum officinale*. Mr. Woodw.]

— 198. ASPERUGO *procumbens*. In and near the church yard, Newmarket. Mr. Woodward.

LYCOPSIS *arvenſis*. *Curt.* v. 57 before *Fuchſ.*

— 200. ECHIUM *italicum*. *Jacq. auſt.* v. *app.* 16 before *Dod.*

— 209. LYSIMACHIA *nemorum*. *Curt.* v. 56.

— 213. CONVOLVULUS *ſepium*. *Walc.* 5.

— 218. CAMPANULA *latifolia*. Eraſe *Fl. dan.* 85, *two flowers and leaf good*, and inſert *Fl. dan.* 782.—

Not unfrequent in the clayey parts of Suffolk. Mr. Woodward.

— 249. After line 18, *add*, A horſe ate once of two bundles offered at different times, but, though he ſwallowed what he had taken into his mouth, he did not eat any more of the ſame bundle. St.

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Page 258. ULMUS *campeſtris*. References. After *Hunt. evel.* add, i. *p.* 114. ed. II.

—— 259. line 3 from the bottom, after *Nat. diſpl.* inſert *Lob. obſ.* ii. 189. 2, *repr. in Ger. &c.*

—— 263. GENTIANA *campeſtris*. In great plenty in a boggy field adjoining to Horsforth Beck, four miles from Leeds. Mr. Wood.

—— 268. BUPLEURUM *tenuiſſimum*. Boggy ground at the farther end of St. Vincent's Rock, near Cook's Folly. Dr. Broughton.

—— 281. SELINUM *paluſtre*. *Root* in one plant nearly ſimple. Mr. Wood.

In great plenty in low wet moors, with Iris Pſeud-Acorus, near Whitgift, Yorkſhire, four miles from the confluence of the Ouſe and Trent. Mr. Wood.

—— 283. ATHAMANTA *Libanotis*. *Apium petræum ſeu montanum album*. Bauh. hiſt. III. *b.* 105. R. ſyn. 218. Mr. Relhan.—*Athamanta Libanotis*. Hudſ. ed. i.—*A. Oreoſelinum*. Hudſ. ed. ii. Mr. Woodward.

Gogmagog Hills, Cambridgeſhire. Ray. — Found ſome years ſince by Mr. Davies of Trinity College on the hills near Lord Godolphin's. Mr. Woodward.

—— 288. *Heracleum Sphondyl. β*. In the woods and other places about Hayes, near Oſweſtry, as common as *α*. Seeds gathered Oct. 4, 1770, were ſown Jan. 2, 1771, and produced plants which flowered in 1772, and they or many of their progeny now occupy the ſame ſpot in Jan. 1789. It ſeems to be more than a variety. Mr. Waring.

—— 291. SIUM *latifolium*. References, line 2, after *repr. in*, inſert, *Lob. obſ.* 113. 1; *ic.* i. 208. 1,

dwarf SIUM *repens*. Stem creeping. Leafits roundiſh, toothed and angular; Linn. — rather *between cut and ſerrated*. St.

Jacq. fl. iii. 260.

Smaller in all its parts than *S. nodiflorum*. *Leafits*, the terminating one deeply divided into 3 lobes. *Roots* more numerous and frequent than thoſe which ſometimes ſhoot out from the lower part of the ſtem of *S. nodiflorum*, by means of which it ſoon covers the ſpot where it is planted with a numerous offspring; ſo that it is difficult, as Jacquin obſerves, to diſcover the parent root. *Leafits*, the terminating one deeply divided into 3 lobes. Dr. J. Sibthorp. —— *Rundles* on fruit-ſtalks,

fruit-ſtalks, oppoſite the leaves. *Leafits* roundiſh egg-ſhaped, unequally ſerrated; ſerratures bluntiſh, the lower edge generally deeply cut alſo in one place. St.

[Found by Dr. J. Sibthorp in moiſt ground called Cowley Bottom, near Oxford.] P. July.

Page 303. After the laſt line. *inſert*, Llangollen monaſtery, Denbighſhire, and White Ladies near Boſcobel, Shropſh. Mr. Dickenson.

— 305. SCANDIX *Anthriſcus*. A horſe eat it. St.

— 307. CHÆROPHYLLUM *ſylveſtre*. Two horſes in a ſtable ate a quantity of it.—A cow left it in a paſture of mine. St.

— 311. ANETHUM *Foeniculum*. *Mill. ill* before *Sheldr.*

— 322. STAPHYLEA *pinnata*. *Giſek.* 56.—*Matth.* May and June.

— 325. PARNASSIA *paluſtris*. References. After *Ludw.* 110, inſert, *Mill. ill.*—

— 328. LINUM *uſitatiſſimum*. References. *Curt.* v. 55.—*Ludw.*

— 330. LINUM *catharticum*. *Fl. dan.* 851.

— 337. line 6, *read*, though 6 in number.

— 343. ALLIUM *arenarium*. *Stems* ſometimes 5 feet high. *Leaf-ſheaths* ſtrongly keeled. Mr. Wood.

Troutbeck-holm by Great Strickland. *R. ſyn.*—[Plentifully about Thorp Arch, Yorkſh. Mr. Wood.]

— 346. After line 24, inſert, 2. White-flowered.

Plentifully in a meadow on the right of the road leading from Wolſley Bridge to Stafford, about 200 yards from the Bridge. 7th May, 1787. With.

— 362. JUNCUS *articulatus*, var. 4. *Fl. dan.* 817.—*H. ox. &c.*

— 363. JUNCUS *triglumis*. Specific character, *add*, Linn. —*with from 2 to 4 flowers.* Hall.—*and 5.* Mr. Griffith, St.

— 366. line 22, *after* force, *inſert*, Bot. Arr. ed. I.

— 367. line 26, after *Ger. em.* 566. 3; inſert, *cop. in Park.* 1680. 6.—

— 370. RUMEX *criſpus*. A horſe refuſed it. St.

— 371. RANUNCULUS *Flammula*. *Walc.* 5.

— 373. RUMEX *obtuſifolius*. Horſes will eat it in the ſtable. St.

— 375. RUMEX *digynus*. [and May. Mr. Griffith.]

— 380. line 13, after Shropſhire, *add*, in the meadow between the church and the medicinal ſpring at Cheltenham.

— 381. ALISMA *Plantago*. References. *Curt.* v. 54.—*Fl. dan.* After *Lob. obſ.* 160. 1, inſert, *ic.* i. 301. 1, *Ger.*

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Page 381. ALISMA *Damaſonium.* After *repr. in.* inſert, *ic.* i. 301. 1, *Ger.*

ALISMA *natans.* [and June. Mr. GRIFFITH.]

—— 382. ALISMA *Ranunculoides.* After *J. B.* iii. 788, inſert, *Lob. ic.* i. 300. 2, *repr. in Ger.*

—— 413. POLYGONUM *aviculare. Walc.* 5.

Convolvulus. Walc. 5.

—— 417. ADOXA *Moſchatellina.* References. After *Ger.* 933. 10, inſert, *Park.* 62. 1.—

—— 424. MONOTROPA *Hypopithys.* References. After *Fl. dan.* 232, inſert, *Plot. oxf.* 9. 6, *at p.* 146, *cop. in H. ox.* xii. 16. 13, *and* 20. *b. in flower*, 20. *a. in fruit.*

—— 427. ARBUTUS *Unedo.* References. After *Hunt. evel.* 373, add, ii. *p.* 81. *ed.* II.—*Mill. &c.*

—— 431. SAXIFRAGA *nivalis.* References. After *Ray* 16. 1, add, *at p.* 358, *from a garden ſpecimen,*

—— 432. SAXIFRAGA *nivalis.* [May to Aug. I have ſeen the ſame plant flower thrice in one ſummer. Mr. GRIFFITH.]

SAXIFRAGA *oppoſitifolia.* [April to June. Mr. GRIFFITH.]

—— 438. SAPONARIA *officinalis.* References. At the end, add, *(Ludw.* 170, *is Lychnis dioica rubra.)*

—— 443. DIANTHUS *deltoides.* It is ſaid to grow ſpontaneouſly on hills in England, but I have neither ſeen it growing wild, nor do I know any one who ever has. DILL.

—— 445. CUCUBALUS *Behen.* References. At the end, add, *(Fl. dan.* 857 *is Silene amoena.)*

—— 454. SILENE *acaulis.* [May and June. Mr. GRIFFITH.]

—— 474. LYCHNIS *dioica.* References. After *Curt.* inſert, *Ludw.* 170.—

—— 476. CERASTIUM *vulgatum. Wale.* 5.

—— 478. CERASTIUM *alpinum. Hairs* tapering, moſtly terminating in globular heads. *Leaves* ſpear-oval, tapering downwards. *Fruit-ſtalks* with hairs, nearly equal in length to the breadth of the fruit-ſtalk. *Capſ.* elliptical-globular, cloven at the end into 10 ſegments; ſegments blunt, bowed in. *Seeds* reddiſh brown, orbicular, I ſuſpect not ripe. Specimen from Mr. Griffith. St:—*Fruit-ſtalk*, hairs tranſparent, jointed, the knots ſomewhat opaque. Mr. GRIFFITH, St.

[Top of Clogwyn y Garnedd, very near to plants of *C. latifolium.* Mr. GRIFFITH.]

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Page 478. CERASTIUM *latifolium. Fruit-ſtalk*, hairs twice as long as the breadth of the fruit-ſtalk. *Capſ.* in the ſpecimens examined not ripe, elliptical, opening with ſeveral ſegments. Specimen from Mr. Griffith. St. —*Hairs* tapering, finely pointed, jointed, knots remote, juſt ſenſibly thicker than the reſt of the hair. Mr. Griffith. St.

[Top of Clogwyn y Garnedd, very near to plants of *C. alpinum.* June and July. Mr. Griffith.]

— 491. line 1. AGRIMONIA *Eupatoria.* Line 1. After *Ludw.* add, *Curt.* v. 53.—

— 492. RESEDA *Luteola. Fl. dan.* 864.—*Sheldr. &c.*

— 496. EUPHORBIA *exigua β. E. platyphyllos β* Hudſ. 210. Mr. Relhan.

— 499. EUPHORBIA *platyphyllos β. E. ſegetalis β* Relhan.

— 502. SEMPERVIVUM *tectorum.* Read, *Curt.* iii. 27. —*Fl. dan. &c.*

— 507. PRUNUS *Ceraſus.* After *Hunt. evel.* 188, add, i. *p.* 181. *ed.* II.—

— 508. PRUNUS *domeſtica.* One horſe ate the young ſhoots, when another at the ſame time refuſed them. Repeated. St.

— 510. CRATÆGUS *Aria.* After *Hunt. evel.* 181, add, i. *p.* 175. *ed.* II.—

— 511. CRATÆGUS *torminalis.* After *Hunt. evel.* 182, add, i. 176. *ed.* II.—

CRATÆGUS *monogynia.* After *Hunt. evel.* 398, add, ii. *p.* 92. *ed.* II.—

— 513. SORBUS *aucuparia.* After *Hunt. evel.* 218, add, i. *p.* 211. *ed.* II.—

— 515. line 12 from the bottom, before *Ludw.* inſert *Fl. Roſſ.* xiii. 1.

— 519. SPIRÆA *Ulmaria.* After *Ludw.* 23, add, *Curt.* v. 58.—

— 520. ROSA *rubigineſa. Fl. dan.* 870.

— 523. ROSA *canina. Walc.* 5.

— 536. TORMENTILLA *reptans.* After *Walc.* add, *Plot. oxf.* 9. 5, *at p.* 146, *cop. in Pet. &c.*

— 551. PAPAVER *Argemone.* Read *Curt.* v. 58.—*Fl. dan. &c.*

— 553. PAPAVER *ſomniferum.* A horſe ate of it at two ſeparate times. St.

— 556. TILIA *europæa.* References. After *Hunt. evel. at p.* 201, add, i. *p.* 194. *ed.* II.—

— 559. CISTUS *Helianthemum. Walc.* 5.

— 564. STRATIOTES *Aloides.* After *Mill. ill.* add *Bergen de Aloide at p.* 1.—

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Page 572. After line 17, insert, Its acrimony rises in distillation. Some years ago a man travelled in several parts of England administering vomits, which, like white vitriol, operated the instant they were swallowed. The distilled water of this plant was his medicine; and, from the experience I have had of it, I feel myself authorised to assert, that in the case of poison being swallowed, or other circumstances occurring in which it is desirable to make a patient vomit instantaneously, it is preferable to any other medicine yet known, and does not excite those painful contractions in the upper part of the stomach which the white vitriol sometimes does, and thereby defeating the intention for which it was given. WITH.

—— 592. TEUCRIUM *Chamædrys*. Rubbish of Whittington Castle, near Oswestry, Shropshire. Mr. DICKENSON.

Line 4. Insert *Galeopsis*.

—— 610. *Galeobdolon*. LINN.

—— 611. BETONICA *officinalis*. *Walc*. 5.

—— 621. ORIGANUM *vulgare*. After *Ludw*. 90, add, *Curt*. v. 57.—

—— 634. RHINANTHUS *Crista galli*. Read, *Curt*. v. 55. —*Riv*. &c.

—— 635. EUPHRASIA *officinalis*. Read, *Curt*. v. 57.—*Sheldr*. &c.

Line 15 from the bottom, *after* roundish, *add*, cloven; lower lip broad, cloven into 3,

—— 667. SUBULARIA *aquatica*. [and June. Mr. GRIFFITH.]

—— 669. DRABA *incana*. [July. Mr. GRIFFITH.]

—— 676. THLASPI *Bursa Pastoris*. *Walc*. 5.

—— 682. IBERIS *nudicaulis*. Line 3, after ST. add, *and sometimes with leaves similar to those of the root*. ST.

References. Line 4, after *Park*. 828. 7, add, *Magn*. *bot*. 187.—*H*. *ox*. iii. 19. 5.—(*Ger*. 214. 2. *is Thlaspi Bursa Pastoris, as Dill in R*. *syn*. *p*. 304. *line* 3, *justly remarks*.)

Line 7 from the bottom, *after* Hudf. *read*, *Stems* not unfrequently without leaves. DILL. *in R*. *syn*.—

—— 685. CARDAMINE *petræa*. [Clogwyn du yn yr Arddu. *R*. *syn*.—in the greatest plenty. Mr. GRIFFITH.] [and July. Mr. GRIFFITH.]

—— 694. SISYMBRIUM *Irio*. Read, *Curt*. v. 55.—*Jacq*. &c.

—— 695. ERYSIMUM *officinale*. After *Ludw*. 187, add, *Curt*. v. 55.—

Page 706. BRASSICA *orientalis*. *Fruit-ſtalks* expanding. *Pods* 3 or 4 inches long, the lower open. Specimen from Mr. Curtis's garden. Mr. WOODWARD.

—— 707. BRASSICA *campeſtris*. *Bloſſom* yellow. Specimen from a garden. Mr. WOODWARD.

Note † *After it inſert*, Flowers and pods agree with it, but the leaves ſomewhat different.

—— 712. SINAPIS *arvenſis*. Read, *Curt.* v. 54.—*Fl. dan.*

—— 713. SINAPIS *alba*. Read, *Curt.* v. 54.—*Blackw.*

—— 722. GERANIUM *cicutarium*. References. Add at the end, *Cam. epit.* 601.—*(Magn. bot. p.* 109, *is G. petræum of Gouan. ill.* 45.*)*

α. LINN.—The 2 ſhorter petals ſpotted at the baſe. ST.

Flowers very early in the ſpring, riſing from the crown of the root upon pedicles, ſoon after elevated upon a ſtalk, and in ſome ſituations a ſtem never appears. *Stem* moſtly preſent, two inches to one and an half foot high. *Leaves* early in the ſpring lying flat on the ground, and in ſome plants continuing ſo all the year; *wings* in the ſpring oblong-egg-ſhaped, cut; in the ſummer and autumn with winged cleſts and very narrow ſegments; in the autumn, in ſhady ſituations, frequently with much broader ſegments. *Bloſſ.* varying in ſize in different plants, and even in the ſame plant, the longeſt petal of a flower from a lateral ſhoot being 2½ tenths of an inch long, while one from a larger branch was 3 tenths long; ſome large in ſmall plants, and vice verſâ. *Petals* of plants growing in the ſame ſituations, and not otherwiſe diſtinguiſhable from each other, the two ſhorteſt in ſome plants ſpotted at the baſe, in others only one of them ſpotted, and ſometimes very obſcurely ſo, in others again unequal but without ſpots, and in others nearly equal and ſpotleſs; *ſpots* oblong, or elliptical, of a greeniſh yelloviſh hue, blackiſh grey, greeniſh white, or white ſprinkled with numerous blackiſh purple dots, many of them confluent; ſometimes ſo faint as to be juſt perceptible, being whitiſh with purple points, and ſometimes only on one of the petals, ſometimes wholly wanting. ST.

G. pimpinellifolium. Curt. cat. p. 87. Bot. Arr. ed. II. p. 724.—*G. pimpinellæ folio*. R. ſyn. 358, as evident from Linnæus's deſcription of *G. cicutarium* given in Bot. Arr. p. 723, and Dillenius's in R. ſyn. given in

Bot. Arr. p. 724.—*G. cicutarium* β Reich. in ſyſt. pl. iii. 318.—*G. cicutarium* γ Hudſ.—*G. petiolis*, &c. Hall. n. 944, var. III. St.

Corn fields, road ſides, ditch banks.

April to Nov. 22. St.

γ Petals without any ſpots at the bottom. St.

Deſcription of *G. cicutarium* by Mr. Woodward at p. 723.—*G. cicutarium* α Hudſ.—*G. cicutæ folio inodorum*. R. ſyn. 357.—*G. petiolis*, &c. Hall. n. 944. α and β. St.

Subject to the ſame varieties as α; grows with it, and diſtinguiſhable in no reſpect that I have been able to diſcover. St.

In the ſame ſituations as α. St.

Page 726. GERANIUM *maritimum*. *Add*, On the South, and never on the North ſide of ditch banks. Mr. J. A. Hunter.

—— 727. GERANIUM *ſylvaticum*. After *Fl. dan.* add, *Cam. epit.* 602, *cop. in Park.* 705. 5, *and abridged in H. ox.* v. 16. 25.—

—— 728. line 6. After 942, add, *G. quartum* Cam. epit. 602.—*(G. moſcoviticum purpureum* Park. 705, deſcription ſeems to be *G. maculatum.)*

—— 743. LAVATERA *arborea*. Chiſſel in Portland Iſland. Mr. Waring.

—— 759. GENISTA *piloſa*. Between Dolgelley and Llyn-Arran at the foot of Cader Idris, about half a mile from the pool. Mr. Griffith.

—— 762. ONONIS *ſpinoſa*. References. Add, *Ludw.* 68.—*Sheldr. &c.*

—— 775. VICIA *Cracca*. References. Add, *Curt.* v. 54.—*Fl. dan. &c.*

—— 779. VICIA *ſepium* 2. Chalk hills near Northfleet. *R. ſyn.* 478.—[Near, &c.]

Ants are ſo fond of it, that in the ſummer you can hardly find a plant of it without one upon it. Mr. Griffith.

—— 797. TRIFOLIUM *flexuoſum*. Jacq.—*Wild Clover*. Worceſterſhire.

Cattle are not fond of it till it is touched by the froſt. From the information of a farmer, to whom I pointed out the growing plant in flower. St.

—— 834. line 5, eraſe, and ſubſtitute, *Leaves* toothed, ſea-green underneath. *Fruit-ſtalks* long, terminating, ſprinkled with glutinous hairs. *Bunches* ſhort. *Flowers* of the ſize of *S. paluſtris*, blue. Linn.

The

The above on the authority of Dr. Smith, in his admirable icon. faſc. I. p. 21. (ST.)

Page 842. LEONTODON *hiſpidum*. *Curt.* v. 53.—*Col. &c.*

—— 848. line 14 from the bottom, after Yorkſh. add, RAY, [and Mr. WOOD.]

—— 854. line 2. Read, *Curt.* v. 55.—*Walc. &c.*

—— 866. SERRATULA *alpina*. Line 4. Eraſe, "*I have not ſeen the plant.*"

—— 867. line 15. *Before*, ſides, *inſert*, On the higheſt rocks of Caernarvonſhire, as Glogwyn y Carndh. *R. ſyn.* [Mr. GRIFFITH.] On the higheſt rock of Snowdon, and in Brearcliff near Brunley, Lancaſhire. MERRET.—[On Crib y Ddeſcil, but in places ſcarcely acceſſible. Mr. GRIFFITH.]

—— 879. ONOPORDUM *Acanthium*. Read, *Curt.* v. 57.—*Fuchſ. &c.*

—— 941. ACHILLEA *Ptarmica*. After *Ludw.* inſert, *Curt.* v. 58.—*Walc. &c.*

—— 985. OPHRYS *ovata*, *Flowers*, the lowermoſt ſhrivelled, the reſt continuing green even after the ſeeds are ſhed. *Empal.* leaves 3, apparently extenſions of the blunt angles of the ſeed-bud, which in the ripe capſule appear in the form of narrow valves. *Petals* 3, the 2 *upper* ſtrap-ſhaped, greeniſh, tinged with purpliſh brown at the edge, the *lowermoſt* as deſcribed in Bot. Arr. 987, all apparently extenſions of the ſides of the ſeed-bud, which in the ripe capſule appear in the form of broad valves. *Capſule* not twiſted, juſt before ſhedding its ſeed inverſely egg-ſhaped, many times larger than the ſeed-bud, with 6 corners, 3 of them prominent but blunt, the 3 alternate ones keeled, of 1 cell, and 6 valves; 3 ſtrap-ſhaped, forming the blunt corners, and 3 placed alternately, ſpear-oblong, thrice as broad, forming the acute corners of the capſule; opening widely at the ſutures, but connected above and below, *letting out while yet green the ſeeds at the future!* in this ſtate nearly globular, yelloviſh green, reſembling in figure an antique helmet with a vizor. *Seeds* very numerous, adhering to the inſide of the broader valves, in 2 lines along the back of the keeled angle; oblong, tapering each way, white, membranaceous, reticulated, each containing a ſingle globular kernel rather ſmaller than the diameter of the caſe which contains it, opaque and of a greeniſh white.

Hurcot Wood, July 20, 1789. ST.

Page 989. OPHRYS *Loeſelii.* Stalk 3 to 8 inches high. *Leaves* variable in ſhape. *Petals*, the 2 lower I have never obſerved wreathed. I have found at leaſt 50 plants this ſummer. Mr. RELHAN.

—— 990. OPHRYS *Monorchis.* References. After *Fl. dan.* 102, inſert, *The flexure of the ſtalk juſt above the root ſeems only an accidental circumſtance.*

—— 1066. line 29. At the beginning, inſert, *Fl. Roſſ.* XL. D. E. F. G.

—— 1069. BUXUS *ſempervirens.* After *Ludw.* add, *Munt.* 157. 35.—*Sheldr.* &c.

—— 1079. SAGITTARIA *ſagittifolia. Walc.* 5.

ADDITIONS *to the* CATALOGUE *of* BOTANICAL WORKS.

ALLION. fl. Allionii flora Pedemontana. Tomi III. 1785. fol.

Amoen. Acad. Tomus VIII^us^ and IX^us^. 1785. 8vo.

Berkenhout's ſynopſis of the natural hiſtory of Gr. Britain. Small 8vo. [It is a 2d edition of his Outlines.]

Fl. dan. faſc. xvi. 1787. fol. [by Vahl, a moſt able and experienced botaniſt.]

Gent. Mag. Gentleman's Magazine from 1742 to 1789.

Geſn. Figures of Geſner's publiſhed by Schmidel, but without his name, in a work intitled Cordi lib. V^tus^ ad. nova. 1753. fol. The firſt No. (i.) implies the firſt plate; the ſecond No. (ii.) the ſeries of figures engraved on copper; and the third No. (iii.) the ſeries of figures cut on wood.——Theſe figures were re-publiſhed under the title of Geſneri op. botanica, and in 1759 and 1772 a faſciculus I. and II. added as a ſequel of the former work.

Hoffm. ſal. Hoffmann hiſtoria ſalicum faſc. I. 1785. fol.

Matth. a C. B. Matthioli opera a Caſparo Bauhino. fol. 1674. fol.

Plot oxf. Plot hiſtoria naturalis oxonienſis. fol.

Plot Staff. Plot hiſtoria natural. ſtaffordienſis. fol.

Sheldr.

Sheldr. Sheldrake's herbal, on above one hundred large folio copper-plates, drawn in the moſt maſterly manner from the originals when in their higheſt perfection. fol. [Plates not numbered. Any one therefore who wiſhes to make uſe of the references made to theſe plates, muſt number them with a pencil, in the order in which they are bound up. The figures of the plants occupy but a very ſmall part of the plate. They are, however, very characteriſtic and chaſtely coloured.]

Thunb. Thunberg flora Japonica. 1784. 8vo. [Plates 39.]

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Signature g in the third Volume is only Half a Sheet.

ERRATA.

Page xxxii. line 3. *Read*, L'HERETIER.
—— xlii. line 22. *For* fol. *read*, 4to.
—— xlviii. line 22. *For* Ekieriſeos, *read*, Epicriſeos.
—— li. line 15. *For* Archiducata, *read*, Archiducatu.
Line 17. *For* apart, *read*, detatched.
—— lviii. Add, *Pet. pter.* Petiveri pterigraphia, (in the latter half of the 2d vol. of his works.)
—— lix. line, laſt but one. *For* Renialmi, *read*, Renealmi.
—— lxiii. line 4. *For* Veronenſi, *read*, Veronenſes.
After line 6, inſert, *Sheldr.* Sheldrake.
—— lxiv. line 9. *For* umbilliferous, *read*, umbelliferous.
Line 22. Inſert here, *Trew.* Editor of the German edition of Blackwell. [See Blackwell.]
Line 23. After *Trew* add, *rar.* Trew rariores, &c.
—— 2. line 17. Dele *Dod.* to the end of the paragraph included between the crotchets.
—— 3. line 18. After *Ger.* add, *em.*
—— 6. line 12. *For* VERONI'CA, *read*, VERO'NICA.
—— 9. line 9. *For Spike* oblong, terminating, *read*, the terminating ſpike oblong.
—— 11. line 7. For *by ob. Lobſ.* read, *by Lob. obſ.*
—— 13. VERONICA *Chamœdrys.* Line 3. *Eraſe* feeble, *and inſert*, with hairs in two oppoſite lines.
—— 14. VERONICA *agreſtis.* Line 2. *Add*, LINN.
—— 15. VERONICA *triphyllos.* Line 5. *Eraſe* very, &c. to the end of line 7.
—— 16. line 2. *After* rocks, *add*, Diſcovered by Sir J. Cullum, near, &c.
—— 24. line 4. The words, *a very luxuriant ſpecimen*, ſhould follow *Curt. n.* 34. *faſc.* iii.
Line 7 from the bottom, *after* ſmooth, *add*, ST.
—— 29. line 4 from the bottom. *For* PHALA'RIS, *read*, PHAL'ARIS.
—— 36. VALERIANA *officinalis.* Line 4. Eraſe, *and cop. by Park.* 122.

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Page 41. Ess. Char. line 3. Eraſe *the lower ones without chives and pointals*, perſuaded that ſtructure alone ought to diſtinguiſh theſe genera. St.

— 43. SCHŒNUS *compreſſus*. Line 2. *For* cornered; flowers in the ſpike, *read*, cornered. Spikets pointing two oppoſite ways. Fence 1 leaf. Linn.

For *brown*, in the margin, read, *tawney*.

— 44. SCHŒNUS *albus*. References. Line 2. *For* Mich. 31. 14. 1, *read*, Mich. Cyperella *I.*

— 46. SCIRPUS. Ess. Char. Eraſe *the lower ones generally producing chives and pointal.*

SCIRPUS *paluſtris*. Line 1. *After* cylindrical, *add*, naked.

— 47. *For* SCIRPUS *pauciflorus*, read, SCIRPUS *pauciflorus*. Line 2. *For*, with 2 valves as long as the empalement, *read*, as long as the empalement, with 2 valves.

SCIRPUS *acicularis*. Line 2. *For*, conſiſting of 2 valves, *read*, with two valves.

— 48. line 6. *Eraſe*, whence Mr. Hudſon has very properly omitted that circumſtance in his ſpecific character.

— 50. SCIRPUS *mucronatus*. References to figures, line 2. *For* 9. 4. *read*, 9. 14.

— 56. line 12 from the bottom. Read, *Awns* none.

— 58. PANICUM *Dactylon*. Paragraph 7 ſhould follow paragraph 2.

— 67. line 5 from the bottom. *For* Llanperis, *read*, Llanberis.

— 73. AGROSTIS *capillaris*. Line 1. *For* very ſlender, *read*, hair-like.

— 79. line 6. *Dele* [Salt marſhes, Norfolk. Mr. Woodward.] Laſt line but 7, *For* Denis, *read*, Danes.

— 80. line 6 from the bottom. *For* ripnes, *read*, ripens. In the margin, in ſome copies, for *lver*, read, *ſilver*.

— 86. line 16. After With. eraſe the remainder of that line, and the whole of the next.

— 87. line 6 from the bottom. For *A.* read *Anders.* —

— 89. line 6. Read, *upright*; *the lowermoſt branches ſometimes*, &c. Line 17. Read, *P. arenaria*, Retz. *ſcand. p.* 16.—*Gramen*, &c.

— 91. Note, line 2. Read, *Poa retroflexa*. (Curt. cat. n. 354.)

— 96. Obs. line 5. *For* or, *read*, and.

— 102. *After* FESTUCA *pinnata*, *add*, Huds.—*After* FESTUCA *ſylvatica*, *add*, Huds. *ed.* I.—

— 103. In the margin, read, *field*.

Par. 2. l. 1. Inſert *Feſtuca pinnata* β Huds.—*Gram.* &c.

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ERRATA.

Page 111. References, line 1. After *C. B.* add, *th.* 71.—*Munt.* 617.—*Cluſ. &c.*
[Munting 173, good. Mr. WOODWARD.]

—— 116. ARUNDO *Phragmites.* Line 1. *For* flexible, *read*, looſe.

—— 131. line 22. For *Mont.* read, *Mich.*

—— 132. line 2. *After* TILLÆA, *add*, Redſhanks.

—— 136. line 9. *For* CUS'CUTA, *read*, CUSCU'TA.

—— 137. line 22. *After* JACQ. *add*, CURT. *cat. n.* 905. ST.
Line 4 from the bottom. *After* SAUV. JACQ. *add*, CURT. *cat. n.* 905. ST.

—— 140. line 19. Before *Ludw.* inſert, *Curt. No.* 48.

—— 143. line 18. For *Park.* 493. 3.—*Spike*, read, *Park.* 493. 3. *Spike.*—
Line 30. *For* chalkey, *read*, chalky.

—— 144. line 14 from the bottom. Read, *including.*

—— 146. line 5 from the bottom. For *marina*, read, *maritima.*

—— 147. line 26. *For* fruit-ſtalks, *read*, leaf-ſtalks.

—— 148. line 4. *After* aſtringent, *eraſe all to the word*, Cows, *in the ſixth line.*
RUBIA *peregrina.* Line 7. *Read*, Bloſſ. with 5 cleſts,

—— 149. GALIUM *Cruciata.* Line 2. *Read*, egg-ſpear-ſhaped. Stem undivided, hairy. Bunches lateral, with 2 or 3 leaves.*

—— 151. line 8 from the bottom. *Read*, [On a common called Dudley Wood.]

—— 152. line 2 from the bottom. Read, *Valantia Aparine.*

—— 154. Note * *read* octonis.

—— 158. line 21. Before *Curt.* inſert, *Ludw.* 146.—

—— 159. line 17. *After the word* ſoils, *ſtrike out the remainder of the line, and alſo in line* 19 *eraſe all that follows* WOODWARD.

—— 161. line 8. Read, *Penn. ſcotl.* ii. 39, *at p.*

—— 165 and 166. *For* CUS'CUTA, *read*, CUSCU'TA.

—— 170. *Sagina procumbens* γ eraſe, it being *Spergula ſaginoides.*

—— 181. No. 275. For *Bloſſ.* jug-ſhaped, read, *Bloſſ.* tube pitcher-ſhaped.

—— 200. line 10 from the bottom, read, *E. vulgare caule, &c. fol. caulinis lanceolato, &c.*
Line 9 from the bottom. *After* MILL. *dict. ed.* 6, add, *and abr. ed.* 6.

—— 202. Par. 1, at the end, add, ST.
Line 2 from the bottom, *read*, Mr. Martyn.

---

* Foliis quaternis ovato-lanceolatis, caule ſimplici piloſo, racemis lateralibus, 2 five 3-phyllis, ST.

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Page 208. line 18. Before *Blackw.* insert, *Curt.* iv. 49.
— 211. line 21. *Add*, Dawlish, Devonshire. Mr. MARTYN.
— 212. line 19. After 5, strike out, *I have not at hand*, and insert, *p.* 43.
— 216. line 10 from the bottom. Read, *Fl. dan.* 189.
— 226. line 13 from the bottom. *For* Enville, *read*, Kinver, Staffordshire.
— 230. line 12 from the bottom. *For* Trittor, *read*, Fritten.
— 233. line 18. *Read*, Lantony.
— 248. Paragraph 1, *add*, ST.
Line 3 from the bottom. *For* leaf-stalks, *read*, fruit-stalks.
— 262. line 20. *For* Boughton, *read*, Broughton.
— 282. line 16 from the bottom. *Read*, Mr. WIGG.
— 283. line 6. Dele, *cop. in.*
Line 18. *For* the *terminating* rundle terminating, *read*, the *Rundle* terminating.
Line 7. After 754, insert, *leaves and florets.*
For *J. B.* iii. 6, read, *J. B.* iii. *b.*
Line 10. After *character*, add, *Fl. dan.* 754, *the reduced figure bad.*
Line 15 from the bottom, after *minor*, insert, *flore luteo*, not *luteolo*, as printed in Fl. suec.
Line 14 from the bottom. Read, *given in the Fl. suec. and by Scop.* For *Libanotis minor apii folio albicans. Bauh. pin.* 157, *cited in Fl. suec.* read, *Daucus montanus apii*, &c. *Bauh. pin.* 150.—For *Libanotis minor apii folio minor. Bauh. pin.* 157, *as cited in Sp. pl.* read, *Daucus montanus apii folio minor. Bauh. pin.* 150.—*(Libanotis apii folio minor. C. B.* 157, *who refers to Lob. obs.* 402. 3, *is*, &c.
Line 9. *Erase*, First discovered in Great Britain by ATHAMANTA *Oreoselinum* to be erased, and insert, ATHAMANTA *Libanotis* only has been discovered in Great Britain, which is the plant found by Ray on the Gogmagog Hills, and which Mr. Relhan first clearly ascertained to be *A. Libanotis.* Mr. WOODWARD.
— 284. Strike out the second and the three succeeding lines.
— 334. line 5. *Read*, Roth.
— 338. After line 14, insert, NARTHE'CIUM. (Hudson.) *Bloss.* 6 petals. *Shaft* 0. *Seeds* with a tail at each end.
— 339. After line 9, insert, TOFIELD'IA. (Hudson.) *Cup* 0. *Bloss.* 6 petals. *Caps.* 3 cells, 6 valves.
— 366. line 22. *After* force, add, *Bot. Arr. ed.* I.
— 407. In the margin, for *amphibion*, read, *amphibious.*
— 410. line 11. Read, *Dod.* 608. 2.

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ERRATA.

Page 411. δ. γ. line the laſt, and 412. n. 3. read *petechiale.*

POLYGONUM *penſylvanicum.* References. Read, *Dod.* 608. 1,

—— 443. line 2. *Read,* Gamblingay.

—— 469. line 18. *Read,* Weathercoat.

Line 3 from the bottom, and 470, line 13 from the bottom, *read,* THUNB.

—— 478. CERASTIUM *latifolium.* Line 1. Eraſe ST.

—— 479. line 10. *For* branches, *read,* floral-leaves.

—— 481. SPERGULA. For 636, read, 638.

—— 481. CERASTIUM *tomentoſum.* Line 19. *Read,* in the garden of Mr. Bonfoy of Ripton, whoſe gardener, Mr. WHITELOCK, now nurſeryman at Fulham, aſſured me, &c.

Line 22. After wild, add, *and where we ſearched for it, but without ſucceſs.*

—— 482. line 4. *For* round, *read,* cylindrical.

Line 9 from the bottom. *Read,* Mant. II. 390.

—— 532. In the margin, eraſe *Tormentil,* and read, *ſilvery.*

—— 535. line 10 from the bottom. Read, *Tormentilla erecta.* LINN. —*officinalis.* CURT.—*Potentilla Tormentilla erecta.* SCOP. *&c.*

—— 536. line 8 from the bottom. Eraſe *Potentilla reptans.*

Line 6 from the bottom. *For* to make it, *read,* to make *T. reptans.*

—— 565. line 25. *For* round, *read,* cylindrical.

—— 569. THALICTRUM *alpinum.* References. Line 1. For 166, read, 266.

Line 2. For 7, read, 20.

—— 573. line 10. For *auricomus,* read, *auricomus.*

—— 615. line 2. For 776, read, 778.

—— 629. line 2. *For* Skul-cap, *read,* Skull-cap.

—— 655. line 4. *Eraſe* Shenſtone Lane, &c. *and inſert it at the end of line* 11.

—— 659. line 15 from the bottom, *after* roundiſh, *inſert,* lower lip broad, the, &c.

—— 664. line 7. For CHEI'RANTHUS, read, CHEIRAN'THUS.

—— 674. Line 19. *Strike out,* green and ſlightly hairy, in others, very downy and white, *and inſert inſtead thereof,* very downy and white; in others it is green and ſlightly hairy,

—— 685. CARDAMINE *petræa.* References. Read, *Fl. dan.* 386.

Line 3. Read *Pet.* 50. 3.—*Pluk.* 101. 3.

Line 5. *Read,* Moelyn rhud near Pheſtiniog.

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Page 690. line 2. *Read*, About Worceſter.
—— 698, 699 and 700. For CHEI'RANTHUS, read, CHEIRAN'THUS.
—— 702. ARABIS *thaliana*. References. Line 4. Read, *Crantz*. i. 3. 2, *is A. ſtricta.)*
—— 710. BRASSICA *monenſis*. References. Line 1. Read, *Lightf*. 15. 1, *&c.*
—— 752. line 8 from the bottom. After LINN.—inſert, M. Gerard, &c.
—— 753. line 7, inſert, to Nov.
Line the laſt, add, [to Sept. ST.]
—— 768. line 7. *For* 581, *read*, 781.
—— 807. line 15. *For* 236, *read*, 233.
—— 808. line 10. Read, turning *black*, when, &c.
—— 824. Strike out the 17th and 18th lines, and inſert, 1022. SANTOLI'NA. *Receptacle* chaffy. *Feather* none. *Cup* tiled. hemiſpherical.
—— 833. line 2 from the bottom. For SONCHUS *alpinus*, read, SONCHUS *canadenſis*. Fruit-ſtalks rough with hair. Flowers, &c.
—— 837. line 5. For 512, read, 509.
—— 847. HIERACIUM *murorum*. *Ger. em.* 304. 1, *imitated, &c.*
—— 848. *& Reich. in ſyſt. pl.*—Leaves, &c.
—— 859. line 6. *Eraſe* About, &c. to WOOD.
—— 914. line 22. *Strike out the* [Marſhy, *and the whole of the two following lines, except*, P. July. Aug.
—— 921. line 24. *After* than 4, *add*, *Bloſs.* have never ſeen of an orange colour.
—— 926. line 6. Read, *Wolf's-bane*.
—— 951. line 23. *For* BOCON, *read*, BOCCON.
—— 964. lines 12. 27. *Add* ST.
—— 965. lines 11. 18. *Add* ST.
—— 989. Line 11 from the bottom. *Strike out*, near Bath, *and inſert*, on Hinton Moor.
—— 994. line 10. *For* lips, *read*, tips.
—— 1000. line 4 from the bottom. *For* ſuperior, *read*, inferior.
—— 1008, After line 9, inſert, 106. ERIOCAU'LON. *Bloſs.* 3 petals. *Cup* compound. *Seed* 1, crowned by the bloſs.
—— 1008, 1069, 1071. For UR'TICA, read, URTI'CA.
—— 1023. line 2 from the bottom, in the note, *read*, many catkins.
—— 1024. SPARGANIUM *ſimplex*. Line 4. *Read*, 1 catkin.
—— 1025. line 2. *Read*, 1 catkin.

RULES

RULES *for the* PRONUNCIATION *of the* LINNÆAN *Names.*

1. THE Engliſh reader is deſired to obſerve, that the accent, or the force of the voice, is to be thrown upon that ſyllable or letter which precedes the mark. Thus in *Ar'butus* the *Ar* is to be the accented or ſtrongly ſounded ſyllable, and not the *bu*, as is commonly, though erroneouſly, the caſe.
2. That the letter *e* at the end of a name is always to be ſounded, thus the word *Elat'ine* is to be pronounced *E-lat'-ti-ne*, with four ſyllables, and not *E-la-tine*.
3. That in words ending in *ides*, the *i* is always to be pronounced long.
4. That *ch* is to be pronounced *hard*, like the letter *k*.
5. That in words beginning with *ſce* and *ſci*, the *c* is to be pronounced *ſoft*; though it is allowed that ſome few words derived from the Greek are exceptions to this rule.
6. That in ſuch words as have *ſch*, the *c* is to be pronounced *hard*. Thus *Schœ'nus* is to be pronounced as if it were written *Ske'-nus*.
7. That *c* and *g*, before *e* and *i*, and before *æ* and *œ*, are to be pronounced *ſoft*, but before the other vowels and diphthongs, *hard*.

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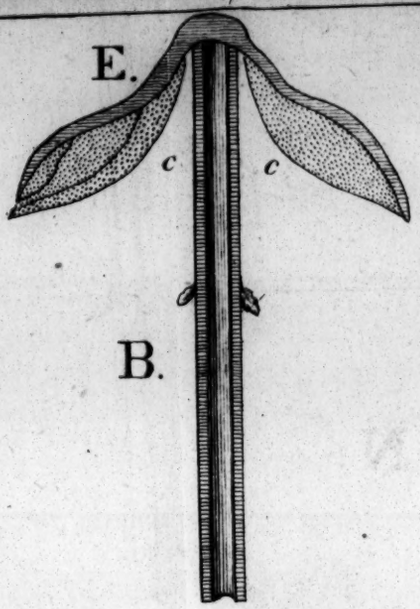
..... *For* Anoma'la, *read*, Anom'ala.

B L

E.



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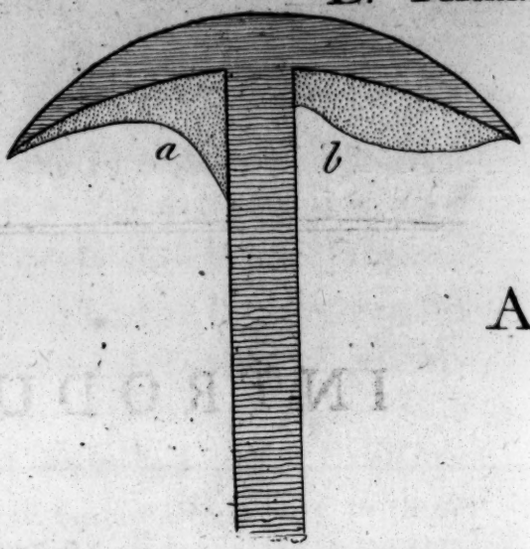

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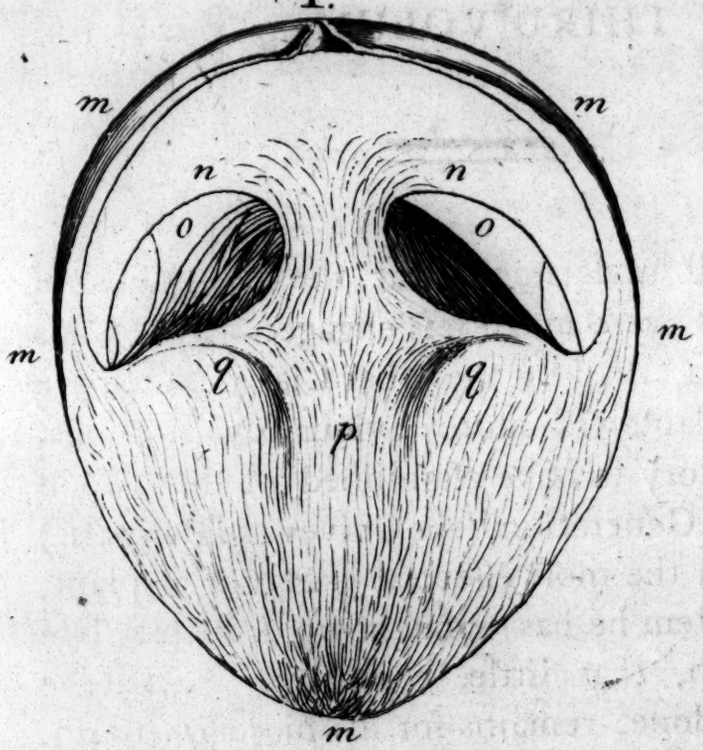

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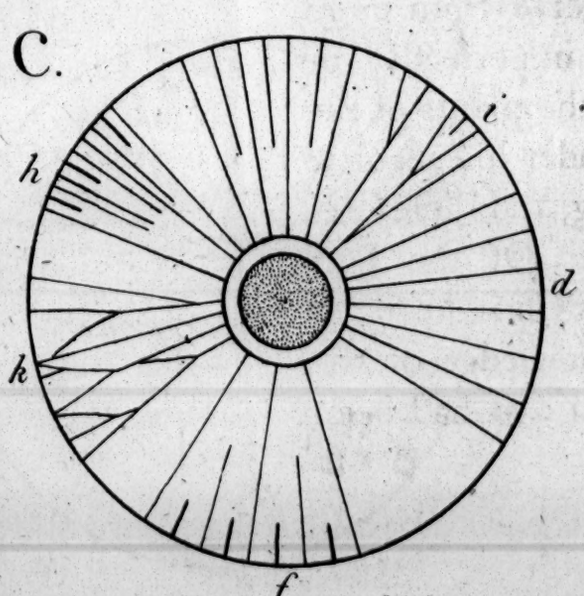

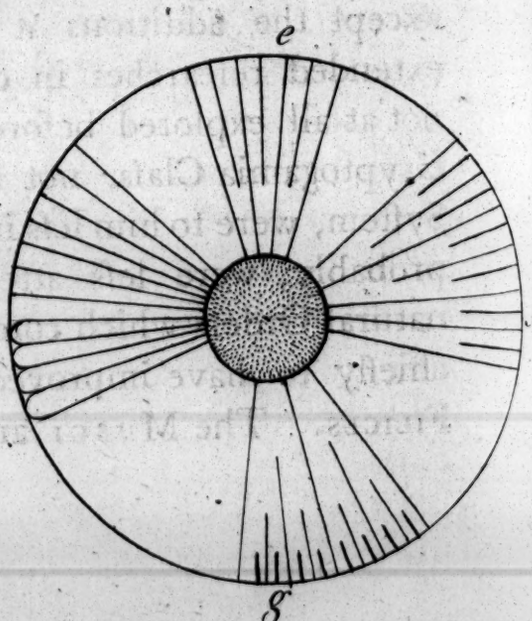

INTRODUCTION

TO THE

THIRD VOLUME.

IT is well underſtood that the attentions of Linnæus were much leſs engaged by the Claſs Cryptogamia, than by the other Claſſes which are formed of plants with more obvious fructifications. It was his glory to have eſtabliſhed a Syſtem upon the organs of Generation, (the Chives and Pointals,) of all others the moſt eſſential parts of a plant, and this Syſtem he has wrought up to ſuch a ſtate of perfection, that little, compared to what he himſelf has done, remains for his ſucceſſors to do, except the additions it may receive from more extended reſearches in countries imperfectly, or not at all explored before. But the plants of the Cryptogamia Claſs, not falling under his peculiar Syſtem, were to him leſs intereſting, and therefore, probably, were leſs attended to. Of the four natural Orders which compoſe this Claſs, he ſeems chiefly to have improved our knowledge of the FILICES. The MUSCI and the ALGÆ had been

ſo

ſo ſucceſsfully explored and ſo excellently figured by Micheli and Dillenius; and Gmelin having nearly exhauſted the ſubject of the Fuci, there remained in theſe extenſive Tribes but little more for Linnæus to do, than to diſtribute and characteriſe them according to his own ideas. The FUNGI, at one time, attracted his attention, but the difficulty of preſerving them in a ſtate fit for comparing together, and the impracticability of tranſporting his books along with himſelf in his various journies, ſeem to have checked his purſuits; neither could he benefit, as we now do, by the almoſt innumerable figures which have been publiſhed ſince the formation of his Syſtem. From theſe cauſes he has done but little in the Fungi, and that little has been ill underſtood. Our countryman, the excellent RAY, paid great attention to theſe ſubjects, but for want of figures, or more extended deſcriptions, it is often difficult, ſometimes impoſſible, to determine his ſpecies. When the admirable plates, and ſtill more admirable deſcriptions of SCHÆFFER were publiſhed, and the world benefitted by the labours of BATTARRA, and the immortal HALLER, the ſubject of the Fungi began to aſſume a more intelligible form. This branch of ſcience has ſince been cultivated with great ardour and ſucceſs by Mr. Hudſon, Mr. Lightfoot, and Mr. Dickſon, in this country, as well as by a number of learned men abroad; but to enter upon a hiſtory of the improvements which have been made within the laſt twenty years, would, however grateful the taſk, be inconſiſtent with the limits of this introduction, which is written merely with a view to point out to the

reader

reader the deſign of the preſent volume. It would, however, be unpardonable, were he to conclude this paragraph, without recommending the plates of our ingenious countryman, Mr. Bolton, and the ſtill more extenſive deſigns of M. Bulliard, ſatisfied as he is, that their excellent figures will greatly promote the object he has in view. Perhaps too he cannot find a more convenient opportunity than the preſent, thus publicly to expreſs his acknowledgments for the very kind and liberal aſſiſtance he has received from the voluntary contributions of many ingenious and learned Botaniſts, more particularly from Major Velley in the Fuci, Mr. Stackhouſe in the Fungi, and Mr. Woodward in every part of the work; but as the aid afforded by his numerous friends, is always acknowledged wherever it has been adopted, it is the leſs neceſſary to be more particular in this place.

In the extenſive Genera of Bryum, Hypnum, Jungermannia, and Lichen, all the Linnæn ſubdiviſions are retained; but to facilitate the reference to the ſpecies, the individuals of each ſubdiviſion are placed alphabetically. Let experience decide whether this method, by ſaving time, and labour, will not more than compenſate for any imaginary or real relationſhip as yet eſtabliſhed between the individuals of theſe numerous families. It will readily be allowed that where a full acquaintance with the ſubject, enables us to place the connecting links in theſe extended chains, in their proper order of mutual relationſhip, there the alphabetical order is inadmiſſible; it is not

the

the order of ſcience; but in the preſent ſtate of our knowledge, the young Student at leaſt will find an advantage in this plan, and the more experienced, or more learned Botaniſt muſt be as ſenſible as the author is, that the time is not far diſtant, when the whole of the preſent ſtructure muſt give way, and theſe enormous maſſes be broken down, and replaced in a more lucid order and a more proportionate diſtribution. This reform muſt be expected from the labours of the illuſtrious HEDWIG, the outline of whoſe diſcoveries will now, for the firſt time, be made known to the Engliſh reader. The Author of this work much wiſhed to have adopted his Genera, and to have arranged the Moſſes, the Lichens, &c. in conformity with his diſcoveries, but the taſk would have been too extenſive for his leiſure, and poſſibly too great for his abilities.

It has been ſaid before, that we are indebted for the knowledge we have of the Moſſes, the Lichens, and moſt of the other Genera of the Algæ, to the indefatigable induſtry of Dillenius, and the ſagacious ſcrutiny of Micheli, from theſe authors therefore, as well as from the Hiſtoria Fucorum of Gmelin, the reader will find the moſt important parts of the deſcriptions extracted. Theſe he thinks muſt be particularly acceptable, not only becauſe none can be expected to deſcribe theſe plants better than thoſe who have figured them ſo well, but alſo on account of the great ſcarcity of the original work of Dillenius, which few are ſo happy to poſſeſs. The copies printed were only 250, and of theſe, but few remain in England.

England. Impreſſions of his plates are eaſily obtained, and the ſcarcity of the letter-preſs will hereafter, in this country, be the leſs regretted. Nor have the labours of Jacquin, or Hoffman, of Wiegel or of Batſch, of Pollich or of Weis, been neglected; they and ſeveral others now contribute occaſionally to the illuſtration of the ſpecies, and to the inſtruction of the Engliſh Botaniſt. It muſt be obſerved that on theſe occaſions, the Author has not aimed at a literal tranſlation; he has endeavoured to catch the ideas of the writers, and to communicate them to his readers in as ſmall a compaſs as the Engliſh language would well permit. It will be evident, that in chooſing this method, his own eaſe was not the object he conſulted.

But it is time that he draw the attention of his readers to the Fungi, and more particularly to the Agarics and the Boleti, a numerous and beautiful tribe of plants, which he flatters himſelf with having rendered as eaſy of inveſtigation, as thoſe of any other part of the Botanic Syſtem. Should it appear that he has done much more on theſe ſubjects than his predeceſſors or cotemporaries, he wiſhes it to be underſtood, that his ſituation is peculiarly favourable to their growth, and that having diſcovered a method of preſerving † them for a length of time, in ſuch perfection as to admit

† This method will ſhortly be communicated to the public; it is only delayed on account of ſome further experiments now making with a view to preſerve the more tender colours.

admit of examination and compariſon, he has been enabled to deſcribe them more fully, and to characteriſe them more accurately, than had been done before, according to a Syſtem which preſented itſelf to his mind upon a comprehenſive and attentive view of the whole ſubject.

This Syſtem muſt now be explained, and by the aid of Plate XIX. the reader will readily underſtand it.

AGARICS are compoſed of a Cap, or PILEUS with GILLS underneath, and have either Stems, or no Stems.

The STEMS are either central or lateral: hence ariſe 3 primary diviſions of the Genus, already in uſe, and adopted by Linnæus.

A. Stems central.
B. Stems lateral.
C. Stemleſs.

They have alſo a ROOT, more or leſs obvious, and ſome of them, in a yet unfolded ſtate, are wholly incloſed in a membranaceous or leathery caſe; called a WRAPPER. Some of them have a CURTAIN, or thin membrane, extending from the Stem to the edge of the Pileus; this Curtain tears as the Pileus expands, and ſoon vaniſhes; but the part attached to the ſtem often remains, forming a Ring round it. This RING is more or leſs permanent, as its ſubſtance is more or leſs tender, but ſome of the ſpecies appear ſome years with,

and

and other years without a Ring, † ſo that though it forms a very obvious character, it cannot be admitted as a ground of ſpecific diſtinction.

Pl. 19. fig. (F.) (borrowed from M. Bulliard,) ſhews a vertical ſection of an Agaric of the more compleat kind, in its egg ſtate, in order to demonſtrate all the parts mentioned above.—(m. m. m. m. m.) the Wrapper.—(n. n.) the Pileus.—(o. o.) the Gills.—(p.) the Stem, before it ſhoots up.—(q. q.) the Curtain. On the ſection of a Stem at (B.) may be ſeen the remains of a Curtain, then called a Ring. The Curtain and the Ring muſt be rejected in forming characters of Agarics, for the reaſon juſt now mentioned, and the Wrapper is not eaſily acceſſible, nor is it very often found, ſo that it does not afford much aid in the diſcrimination of the ſpecies. The Curtain and its remnant the Ring, are common to all our ſecondary ſub-diviſions of Agarics with central Stems, but the Wrapper ſeems to be confined to the plants with ſolid Stems only, nor has it been found attendant even upon thoſe when the Gills are decurrent.

The STEM of an Agaric is either ſolid, or hollow. The *ſolid* Stem is repreſented at (A.) the *hollow* Stem at (B.) When an Agaric is to be examined, cut the Stem acroſs, about its middle, with a ſharp knife, and it muſt immediately appear whether it be ſolid or hollow. Let it be remarked, however, that

† e. g. Ag. æruginoſus. (See page 365.)

that the *ſolid* Stem varies much in degree; it may be as ſolid as the fleſh of an apple, or as ſpongy as the pith of an elder ſtick, or a ſun-flower ſtalk, but ſtill it is ſolid, *i. e.* there is no regular hollow pervading its whole length; though the more ſpongy and larger Stems ſometimes ſhew irregular and partial hollow places from the ſhrinking of the pithy ſubſtance when the plant grows old, but this can never be miſtaken for a regular, uniform, and native hollowneſs. (B.) repreſents a *hollow* Stem. The width of this hollow part varies much in different ſpecies, and is by no means always proportioned to the ſize of the Stem; though it is unform and regular throughout its whole length, except perhaps at the very bottom, where it changes to a root. This hollow is ſometimes entirely empty, ſometimes looſely filled with a pithy ſubſtance, but its regularity is not affected by that circumſtance. Next to the Gills, the Stem of an Agaric is the part leaſt liable to variation. When its ſhape is not that of a cylinder, its diameter, as expreſſed in the deſcriptions, muſt be underſtood to be the diameter of its middle part.

The GILLS are the flat, thin ſubſtances, found underneath the Pileus, and attached to it; they are of a texture evidently different from that of the Stem or the Pileus, they aſſume different colours in different ſpecies, and vary much in their reſpective lengths. Each Gill conſiſts of two membranes, and between theſe the ſeeds are formed. The Gills are always attached to the Pileus, and ſometimes to that only, as at fig. (E. c. c.) They often ſhoulder up againſt the Stem, and are *fixed* to

to it, as at fig. (A. b) and frequently they are not merely *fixed* to the Stem, but extended along it, downwards, as at (a) in the laſt-mentioned figure. This is what we ſhall call a *decurrent* Gill. The *fixed* and *decurrent* Gills are attached to the Stem *only by their ends* which are next to the center of the Pileus, not by their edges, as is ſometimes the caſe in ſome of the Agarics whoſe Pilei or Caps are nearly cylindrical. In ſome of theſe the edges of the Gills are preſſed cloſe to the Stem, and even adhere to it more or leſs in the young ſtate of the plant, but ſeparate before it attains its full expanſion. This therefore is a very different kind of attachment to that which we mean to expreſs by the terms *fixed* or *decurrent*.

Our ſecondary ſub-diviſions of the Agarics, are founded upon what has been juſt now explained, and are follows: —

STEM ſolid; { 1. GILLS decurrent. 2. GILLS fixed. 3. GILLS looſe.

STEM hollow; { 4. GILLS decurrent. 5. GILLS fixed. 6. GILLS looſe.

But the GILLS containing the fructification of theſe plants, are of the utmoſt importance, and therefore demand more particular notice. They vary very much in length, for though they all extend to the edge of the Pileus, they do not, except in a few inſtances, all reach to the Stem; moreover they are ſometimes forked or divided,

and ſometimes connected or anaſtomoſing one with another. All theſe circumſtances are explained by the two circular figures at the bottom of Plate XIX. — thus:

(d.) Gills uniform. Theſe uniform Gills ſometimes ſeem connected together at the edge of the Pileus, as repreſented below (d.)

(e.) Gills in pairs.

(f.) Gills 4 in a ſet.

(g.) Gills 8 in a ſet.

(h.) Gills irregular, that is, no determinate number in a ſet.

(i.) Gills branching.

(k.) Gills branching and anaſtomoſing.

C. Gills *looſe* from the Stem, but the inner end fixed to a Collar which ſurrounds the top of the Stem, though not in contact with it.

Theſe various circumſtances of the Gills ſeem at firſt ſight well adapted for ſub-diviſions of the ſpecies, and alſo for the formation of ſpecific characters; but they are ſo much ſubject to variation that no uſe can be made of them for either purpoſe. Thus, the Gills called *uniform*, are ſeldom ſtrictly ſo, a ſhorter Gill now and then intervening. The Gills *in pairs*, have place only in a few ſpecies, and are ſubject to vary; the Gills 4 *in a ſet*, occupy by far the greater part of the ſpecies, and thoſe which have 4 in a ſet in the younger plants, are very apt to ſhew 8 when more fully expanded, ſome of the longer Gills tearing from the Stem. Moreover, though 4 in a ſet be the predominant number in many of theſe plants, we often find

but

but three, or even two, owing to the abſence of one or more of the ſmaller Gills. The *colour* of the Gills is fortunately an obvious, and at the ſame time a *permanent* circumſtance; and when we reflect, that their colour is principally, if not ſolely, cauſed by that of the Fructifications or Seeds within them, we might *(a priori)* have expected, what experience has taught me to be the caſe, that this is the moſt fixed, the moſt certain characteriſtic on which to found the diſtinctions of the ſpecies; and that this, together with the ſtructure, will be at all times ſufficient to afford permanent ſpecific diſtinctions. It is allowed that theſe colours change when the plant begins to decay, but no Botaniſt would complain that the characters are wanting in a ſubject collected in a rotten ſtate. The colour of the *flat* ſides of the Gills is what I wiſh to be attended to, becauſe the colour at the edge, in ſome plants, is different, through all the ſtages of growth, and in others it changes ſooner than that of the ſides, evidently from the diſcharge of the Seeds when ripe. The colour of the whole of the Gill being ſometimes influenced by the ripened Seeds, it is clear that this colour ought to be deſcribed, where it is liable to ſuch a change, not only in the perfect and vigorous ſtate of the plant, but alſo in its mature and nearly decaying ſtate, taking its character from the former. Thus in ſeveral of the deliqueſcent Agarics, eſpecially ſuch as diſſolve in decay to an inky liquor, the plants when very young have white Gills; theſe become *grey* when the Seeds are formed, and black when quite ripe, and the plant diſſolves in decay. Theſe circumſtances may be properly noticed in the hiſtory of the plant, but

no

no one would think of taking its character from its yet but half unfolded ſtate, any more than from its ſtate of decay; ſuch a plant therefore muſt be placed amongſt others whoſe Gills are *grey*.

The STEM is a leſs variable part than the Pileus; its ſhape, the proportions of its length to its breadth, and of both to the Pileus, afford tolerable diſtinctive marks, and its colours, though more changeable than thoſe of the Gills, are perhaps rather more fixed than thoſe of the Pileus.

The PILEUS, or Cap, is the part of an Agaric the laſt to be attended to, and the leaſt to be depended on. Its ſhape is either conical, convex, flat, or hollowed at the top like a funnel;† it is conſtantly varying in the ſame plant, but is pretty uniformly the ſame in the ſame ſpecies when the plant is in perfection, that is, when fully or nearly fully expanded, but before it exhibits ſymptoms of decay.

The *colour* of the Pileus is often extremely uncertain, and in that caſe can no further be admitted into a character, than as it may ſerve to mark the varieties.

The *Viſcidity*, or clammineſs on the ſurface of the Pileus and Stem, frequently obſerved in ſome Agarics, has been made a part of their character; but it is not much to be depended on; for in dry weather ſome of the viſcid ſpecies ſhew no ſymptom

† (E.) repreſents a conical, (D.) a convex Pileus.

tom of a moiſt or even adheſive ſurface, and in a moiſt atmoſphere, many, at other times dry to the feel, become more or leſs viſcid.

The *Lacteſcent*, or milky juiced Agarics, at one time ſeemed to force themſelves into obſervation, as laying claim to a well-founded ſub-diviſion; but further experience demonſtrated, that neither thoſe with a mild, nor thoſe with an acrid milky juice, were invariably milky. This was an unexpected circumſtance, nor does it yet appear upon what it depends. Plants apparently healthy and vigorous ſhall ſhew no ſigns of milk when wounded, whilſt others on the ſame ſpot, and at the ſame time, ſhall pour out their milk in abundance. It muſt be acknowledged, that this difference is not very common, but it certainly does take place. †

Such are the grounds of the preſent attempt to reduce the Agarics to a Syſtem; an attempt, which if eſtabliſhed, will greatly facilitate the inveſtigation of the ſpecies, and if it fail to merit the countenance of the public, will probably give birth to another and a better.

The Author is ſenſible, that ſome of the ſpecific characters may be thought too long, whilſt a few may be found too ſhort; but theſe cannot be ultimately adjuſted until the diſcovery of new ſpecies ſhall

† The Agaricus rubeſcens, and Agaricus cæſareus, are inſtances of this kind of deviation.

ſhall ceaſe. That many new ones ſtill remain to be aſcertained, is highly probable, ſince ſo many have occurred within his own obſervation, and that of his correſpondents.

A few, and only a few exceptions have occurred to the general laws of the Syſtem; and it will be right to mention them here. The Agaricus velutipes, p. 391, and the Ag. ſulcatus, p. 344, have ſuch a ſtriking reſemblance, that they muſt be pronounced to be the ſame, were not the Stem *hollow* in the one, and *ſolid* in the other Can ſuch a difference of ſtructure be ſuppoſed to exiſt in the ſame ſpecies? If this queſtion be anſwered in the affirmative, the exception muſt be allowed, and extended to one or two more of the minuter ſpecies. The other exception depends upon the different colours of the Gills of the Agaricus aurantius. This ſportive ſpecies diſdains the rules of the Syſtem, and exiſts under almoſt every kind of colour that can be imagined; the chief variations however, to obviate difficulties, are inſerted where the inveſtigating Botaniſt would be led to look for them,

In the execution of the preceding plan, the references to figures are not very numerous, becauſe peculiar care has been taken to avoid doubtful references. What uſe can there be in the inſertion of a figure or a ſynonym with a note of interrogation at the end of it? If the Author, with all his attention collected upon the ſubject, and poſſibly with the plant before him, cannot decide, why perplex his readers by deſiring them to do it? In ſome

caſes

caſes it may be uſeful to refer to a figure which it is well known was not drawn for the plant in queſtion. Thus when a new ſpecies occurs, or one which has never yet been figured, a reference to a drawing which reſembles it in ſize, and in habit, may be uſeful, if care be taken to announce the circumſtance, and to point out the diſſimilitudes.

The reader will find, on turning to other authors, that a number of references to the ſpecies before known, are omitted in this work; but he is not haſtily to conclude that this has been in conſequence of careleſs inattention. He may be aſſured that they have been examined, and are not omitted without a cauſe. Sometimes circumſtances made it neceſſary more directly to point out theſe errors, but it was an invidious taſk; and believing, that notwithſtanding his utmoſt care, the preſent work will ſtill be liable to errors of the ſame nature, he has felt unwilling to cenſure his predeceſſors, to whoſe labours he ſhould have thought himſelf greatly indebted, even were their errors ten fold what they are.

The ſpecific character of LINNÆUS is always added, where no doubt exiſted of the identity of the ſpecies, and it was the Author's wiſh to have quoted all the Agarics of Mr. RAY under their proper heads, but the want of figures, and the brevity of the deſcriptions, deterred him from aſſigning a place to many of them. Here it may be obſerved, that where the deſcriptions of that admirable Botaniſt are ſufficiently full, or where

he

he could refer to a figure, the Agarics of the preſent day appear to be preciſely what their predeceſſors were a hundred years ago. This it was thought neceſſary to remark, to quiet the appreſions of ſome who have been deterred from the ſtudy of theſe ſubjects, by a prevalent idea that they were forever changing, and were conſequently incapable of any fixed or ſettled character. It would not be difficult to point out the origin of this opinion, but it is ſufficient to ſay that it is not true, and that no part of the Vegetable Syſtem is leſs liable to change, or more ſteady to the rules of a well formed method than the Agarics are.

It muſt however, be allowed, that new ſpecies of Fungi are daily diſcovered; but this may be owing partly to the greater attention that has of late been beſtowed upon theſe ſubjects, and partly as Major VELLEY ſuppoſes, to the introduction of ſo many exotic trees.

It remains now only to ſpeak of the trivial names. This has been a much more arduous labour than can well be imagined. Much of the difficulties of Botaniſts, and many of the confuſions of writers, have been owing to the application of different names to the ſame ſpecies, or of the ſame name to different ſpecies. The extent of this evil is hardly credible. Some ſpecies have ſix or eight different names, given by as many different authors, and in ſeveral inſtances the ſame name has been applied to ten or a dozen different plants. Surely it is time to put a ſtop to this uſeleſs increaſe of difficulties. In the

execution

execution of this work, the following rules have been adopted.

1ſt. When a well known ſpecies occurs, to continue the name given it by its firſt inventor, unleſs obviouſly and highly improper, or unleſs a long continued attachment to another name had quite ſuperſeded the uſe of the former, or unleſs the former name had been previouſly appropriated to another ſpecies.

2d. Never to change a name adopted by Linnæus, except where his name included more than one ſpecies, and then to aſſign it to that which he has more particularly deſcribed.

3d. In naming a non-deſcript ſpecies, to uſe the moſt appropriate term that occurs, provided it be ſuch as has not before been attached to any well eſtabliſhed ſpecies.

The diſcoverer of a new ſpecies may find ſome trouble in complying with theſe rules, but he will be rewarded by conſidering, how much more trouble he will ſave to others, and how much his fellow labourers in the ſcience will feel themſelves obliged by his attentions.

The Genus Boletus, and the other Genera of the order of Fungi, require no particular explanation, for the Syſtem adopted in the Agarics has been applied to them, as far as it was applicable, and imperfect as our knowledge of theſe plants at preſent is, ſuch is the ardour of numbers in enquiries

enquiries concerning them, that we may ſoon expect to ſtrike out more perfect characters of the Genera, as well as a more judicious diſtribution of the ſpecies.

In every part of natural hiſtory, two modes of arrangement may be deviſed, the one, beſt calculated to facilitate the inveſtigation of each ſpecies and variety, and therefore more convenient to the practical Student, the other better ſuited to the contemplative mind, which dwells with pleaſure on the groupes or aſſemblages called natural Orders, and from the comprehenſive views which this mode of diſtribution affords, generaliſes detached facts, and catches a glimpſe of the laws by which the univerſe was created. But this mode of grouping natural aſſemblages is alſo applicable, as it were on a ſmaller ſcale, to break down the larger maſſes into other groups, whoſe more intimate relationſhips are marked by ſecondary characters. This has been attempted, as far as the Agarics are concerned, by Mr. STACKHOUSE, and he has been prevailed upon to allow the publication of the following ſynoptic view, which the reader will perceive was drawn up without any reference to the preſent work, therefore leſs perfect than it might be made, but ſtill ſufficient to convey an idea of the intended mode of diſtribution.

FUNGI. (AGARICI.)

A. Stipitati.

LACTESCENTES.

N.

1. Delicioſus. Schæff. Huds. Lightfoot.
2. Lactifluus. Linn. Schæff. Hudſ. Bolt.
3. Ruber. Schæff. t. 5. Bauh. quoted by Hudſ. 2d ed.
4. Piperatus. Linn. &c. &c. Var. 1. lamell. incarnatis. Var. 2. luteſcens.
5. Dulcis. Hudſ. Lightf. Ray. n. 15.
6. Cinereus. Ray. n. 48.
7. Necator. Bull. Schæff.
8. Hydrogala. my. n. 197. B.

NON LACTESCENTES.

1. *Lamellis patulis.*

—— *æqualibus.*

9. Integer. Linn. &c. &c.
10. Muſcarius. Linn. &c. &c. Var. verrucis albis. Var. ——— nigris.
11. Lacteus. Hudſ.
12. Trilobus. Bolt.

—— *inæqualibus.*

Carnoſi.

13. Campeſtris. Var. 1. white Gills. Ray. 22. 2. Georgii. Bauh. 3. minor latus.
14. Latus. Bolton. Xerampelinus. Dixon. St.
15. Lividus. Schæff. Ray.
16. Violaceus. Hudſ. Schæff. Ray. 13. 25.
17. Aurantius. Schæff. Ray. n. 35.
18. Carnoſus. Curtis.
19. Mammoſus. Linn. Hudſ.
20. Adnatus. Hudſ. Schæff. t. 210. Curtis. viſcidus.
21. Pompatus. Bolton.
22. Elaſticus. Do.
23. Lateralis. Do.
24. Politus. Do.
25. Caſtaneus. Do.
26. Plumbeus. Schæff.

Excarnes.

27. Pratenſis. Lightfoot's cor.
28. Viridis. Schæff. Bolt. Ray. Hudſ.
29. Caryophillæus. Schæff.
30. Alliatus.
31. Amethiſtinus. Hudſon. Lightfoot.
32. Viſcidus. Linn. Hudſ. Stackhouſe n. 104. B.
33. Equeſtris. Linn. Hudſ. Ray 41.
34. Fuſcus. Fl. Dan. 1010.
35. Ochraceus. Schæff. Bull.
36. Carneus. n. 115. A. B. C. Stackhouſe.
37. Fuliginoſus. Hudſon. Lightf. Bolt. Schæff.
38. Rubeus. Bolt. Bull.
39. Membranaceus. Bolt. Fl. Dan.
40. Irregularis. Bolt.
41. Repandus. Bolt. Bull.
42. Plumoſus. Bolt. Bull.

Lamellis demiſſis.

—— *integris.*

43. Fimitarius. Schæff. Hudſ. Bolton. Fl. Dan.

44. Ex-

44. Extinctorius. Linn. Hudſ. Lightf. Bull.
45. —— Procerus. Ray.
46. Luridus. Bolt. (rejected by you.)
47. Domeſticus. Bolt. Battar.

—— *inæqualibus.*

48. Annulatus. Lightf. Ray. Schæff. Stackhouſe. 56.
49. Clypeatus. Hudf. Lightf. R. Syn. n. 29.
50. Criſtatus. Bolt. St. n. 49.
51. Rigidus. Bolt. Schæff.

Lamellis decurrentibus.

Venoſi.

52. Cantharellus. Linnæus. Hudſ. Lightf.
53. Infundibuliformis. Bolt. Bull. Battar.

Lamellis inæqualibus.

54. Umbilicatus. Bolton. Schæff. Stackh. n. 66.
55. Rutilus. Schæff. St. n. 51.
56. Collinus. Schæff. R. Syn. n. 31.
57. Mollis. Bolt. Bull. Schæff.

Faſciculati.

Lam. integris.

58. Confertus. Bolt. (rejected by you.)

—— *inæqualibus.*

59. Faſcicularis, Huds. &c. &c.
60. Faſciculoſus, Ray n. 51. Curtis velutipes.
61. Floccoſus. Schæff. Curt. Stackhouſe. n. 107.
62. Conicus. Huds. Schæff.
63. Flabilliformis. Schæff. Lightf. ſemipetiolatus.
64. Laricinus. Bolt. Battar.
65. Annularius. St. n. 105.
66. Flexuoſus. Stackhouſe.
67. Expanſus. Stackhouſe.

Nani.

Stipite longo.

68. Campanulatus, Linn. Huds. Stackh. n. 122.
69. Androſaceus, Huds. Ray Lightf. Schæff. Vaill.
70. Clavus. Huds. Bolton. Schæff. Vaill.
71. Filopes. Bull. Bolt. Fl. dan.
72. Capillaris. Stackh. n. 82.
73. Piloſus. Huds.

—— *brevi.*

74. Minutulus. n. 1.
75. Fragilis. Linn. Huds.
76. Umbilliferus. Linn. Huds. Ray.
77. Eburneus. Bolt. n. 15. Stackhouſe.
78. Luteo-albus do.
79. Tortilis. do.
80. Cœſpitoſus. do.
81. Purpureus. do.
82. Vernus. R. ſyn. 43.
83. Striatus. R. ſyn. n. 53. Stackh. n. 13.
84. Bulbo-ſellus, (an unique on a ſtem of graſs. n. 125. Stackh.)

B. Acaulis.

85. Palmatus. Bull. St. 1. 116.
86. Quercinus. Linn. &c.
87. Pectinatus. Huds.
88. Betulinus. do.
89. Alneus. do. St. n. 80. Lightfoot.
90. Oſtreatus. Curtis.
91. Fœtidus. St. n. 106.
92. Seſſilis. Bull. St. n. 109.

Claſs

Claſs XXIV.

CRYPTOGAMIA.

FLOWERS INCONSPICUOUS.

UNDER this Claſs are arranged a number of Vegetables whoſe Flowers are either but little known, or whoſe Chives and Pointals are too minute to admit of that mode of inveſtigation which prevails through the twenty-three Claſſes preceding. The ſtructure too of theſe Vegetables differs conſiderably from that of other plants. They are divided into four Natural Orders, viz. FI'LICES, (FERNS;) MUS'CI, (MOSSES,) AL'GÆ, (THONGS;) and FUN'GI, (FUNGUSSES.)

FI'LICES. Ferns.

The plants of this order ſometimes have their flowers in ſpikes, as in the EQUISETUM, (plate I. A.) but they are generally diſpoſed in ſpots or lines on the under ſurface of the leaves, as in the ASPLENIUM, (plate I. B.)

EMPAL. a ſcale, ſpringing out of the leaf; opening on one ſide. Underneath this ſcale, ſupported upon little foot-ſtalks, are

GLOBES, encompaſſed by an elaſtic ring, which burſt with violence, and ſcatter a powder.

OBS. The ſeed-veſſels on the under ſurface of the leaves are covered by a very fine, thin, ſemi-tranſparent ſkin, which burſts open before the ſeeds ripen. The ſeed-veſſels themſelves are compoſed of three parts. *Firſt*, a little fruit-ſtalk, by means of which they are connected with the ſurface of the leaf. *Second*, a globular Capſule ſtanding

upon the fruit-ſtalk. *Third*, an elaſtic cord, fixed to the top of the fruit-ſtalk and ſurrounding the Capſule. When the Seeds are ripe, the cord endeavours to become ſtraight, and, by its elaſticity, tears open the Capſule. The Capſule opens like that of the ANAGALLIS, as if it had been cut round with a knife, forming two hollow hemiſpherical caps. The elaſtic force which tears it open, diſperſes the ſeeds abroad. Theſe are ſo minute as hardly to be viſible to the naked eye. In the months of September and October this curious mechaniſm is very evident in the Common Brakes (PTERIS,) or in the Harts-tongue, (ASPLENIUM *Scolop.*) by the aſſiſtance of a good ſingle Microſcope with a reflecting Speculum. The ſudden jerk of the ſpringing cord frequently carries the object out of the field of view, ſo that it requires ſome patience to obſerve the whole of the proceſs.

As there are no certain diſtinctions in the Flowers themſelves ſufficient to eſtabliſh the Genera, theſe are known by the diſpoſition of the ſeeds under their covers.

But in bringing my readers to an acquaintance with this Claſs, it would be unpardonable to make no mention of the illuſtrious HEDWIG, who has immortalized his name by the accuracy of his reſearches, and the ſplendor of his diſcoveries, in theſe obſcure families of plants. He communicated the reſult of his obſervations to the Academy of Sciences at Peterſburgh, in the year 1783.* As this work is but little known to the Engliſh Botaniſt, I ſhall ſubjoin the following compendious view of the ſubject, confining myſelf principally to the diſcoveries more immediately relating to the parts of fructification. Thoſe who wiſh for further information, cannot fail of being highly gratified by an examination of the original work, and by a peruſal of this very ingenious author's ſubſequent publications.

He introduces his ſubject with an account of the views of his predeceſſors in this branch of Natural Hiſtory, and though he mentions the miſtakes in which many of them had been involved, he does ample juſtice to thoſe who had anticipated him in any part of his diſcoveries.

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* See Theoria Generationis et Fructificationis plantarum Cryptogamicarum Linnæi. — Petropoli. 1784. quarto.

FI'LICES. Ferns.

§ 1. *With a club-ſhaped fructification.*

EQUISE'TUM. HEDWIG illuſtrates the ſtructure of this Genus by a particular examination of the EQUISETUM *ſylvaticum*, and E. *paluſtre*. The former, as well as the E. *arvenſe*, protrudes its club-ſhaped head out of the earth early in the ſpring. Round this head are placed, in circles, target-ſhaped ſubſtances, each ſupported on a pedicle, and compreſſed into angles in conſequence of reſting againſt each other previous to the expanſion of the ſpike. Beneath each of theſe targets we find from 4 to 7 conical ſubſtances, with their points leaning a little inwards towards the pedicle. They open on the inner ſide, and upon ſhaking them over a piece of paper a greeniſh powdery maſs falls out, which at firſt is full of motion, but ſoon after looks like cotton or tow. So far may be diſcerned by the naked eye, but a good Microſcope diſcovers green oval bodies, and attached to each of them, generally 4 pellucid and very ſlender threads, ſpoonſhaped at the end. Theſe are almoſt conſtantly in motion, contracting upon the leaſt breath of moiſt air, and when wet with water rolling round the oval body. Pl. xiii. f. 1. *e. f.* fig. 2. *f.* f. 3. 4. f. 5.

In the Equiſetum *paluſtre* the threads are broader, and the green oval or globular ſubſtance more pointed. This is undoubtedly the *Seed*, for it gradually increaſes in bulk, and when it falls, the ſpike ſhrivels. Its projecting point is the *Summit*, and the conical ſubſtances under the targets are the capſules. f. 6.

The ſcales which ſurround the flowering ſtalk at certain diſtances after its protruſion, ſerved whilſt it was yet young, as a general fence to the ſpike.

Hence it appears that the genus EQUISETUM contains both Chives and Pointals within the ſame Empalement.

The flowering *Spike*, or general empalement, ſcaly and tiled; the partial empalement target-ſhaped.

Threads 2; *Tips* 4, one at each end of each thread.

Summit ſingle.

Capſule a target of 4, 5, 6, or 7 cells.

Seeds numerous, egg-ſhaped or globular; placed upon and lapped up within the threads.

§ 2. *With a leafy fructification.*

OPHIOGLOS'SUM *vulga'tum.* Examining the ſpike in its advanced ſtate, with a moderate magnifier, we find columns on each ſide, with cavities opening tranſverſely, ſcattering a powder, and beſet with innumerable *eminencies* tiled one upon another like ſcales. With a very fine knife ſlice off a portion, ſo as it may have a little of the column on each ſide. Examine this in a good compound Microſcope, reflecting the light through it. Tranſverſe lines will then appear, which, as well as the interſtices
Pl. xiii. f. 7. between them, are more opake than the part on each ſide. It is eaſy to ſcrape off ſome of the *eminencies* with the back of a knife; put them into a little water, and uſe higher and higher magnifying powers, you will then diſcover ſimple and compound bodies, moſtly oval, ſurrounded with a more pellucid line, and containing a granulated ſubſtance within. f. 8.

Others may decide whether the leaf in this plant anſwers the purpoſe of a fence or Empalement whilſt it is in flower; but I conſider the ſpike as bearing both Chives and Pointals; the *Tips* occupying the interſtices of the Seed-buds, which are furniſhed with a tranſverſe *Summit.*

It may be remarked that the Spike is at firſt yellowiſh, changing to brown, when the Capſules open and diſcharge their powder. This powder is the real ſeed, for after its diſcharge the plant gradually periſhes, though new ſhoots are ſent out the enſuing year.

OSMUN'DA *ſpi'cant.* This undoubtedly belongs to the Genus Acro'stichum.

Early in the ſpring the flowering leaves come up, almoſt rolled into a ball, and not the leaves only, but the leafits
f. 9. alſo are rolled up. On the back ſide of each of theſe leafits there are two white lines, extending from the baſe
f. 10. of the leafit to the point, they are bordered with green and depreſſed in the middle. Theſe white lines are fine membranes, and on carefully ſeparating them at their union with the leafit, we diſcover very minute pellucid bodies, ſupported upon footſtalks. f. 11. *c. c.*

In the younger leafits, by the aſſiſtance of high magnifiers, we may diſcover ſmall bodies of a browniſh caſt, compoſed of two parts, the one very ſlender and pellucid,

proceeding

proceeding from the rib, the other a coloured oval globule standing upon it. When the leafit is fully unfolded, and the lines become more turgid, theſe corpuſcles upon the rib diſappear. Pl. xiii. f. 11. *a*.

POLYPO'DIUM *Thelyp'teris*. This does not well rank with the Acroſtichum's, to which Genus Linnæus referred it. The diſpoſition of its fructification accords with the Polypodium's.

Schmidel, Icon. plant, t. xi. 13. p. 45. has delineated and deſcribed this plant ſo accurately, that nothing remains for me to add, but that the veſicles of a ſhining yellow colour, viz. the Tips, are found upon the rib, and its ramifications, as well as upon the projecting edges of the membranes which cover the cluſters of ſeed veſſels.

POLYPO'DIUM *F. fœm'ina*. When it firſt ſprings out of the earth and is yet in its curled ſtate, we find by the aſſiſtance of a good Microſcope, the back ſide of the leafits covered with turgid capſules. On the other ſide, abundance of ſpherules of a milky colour, ſupported upon pedicles. f. 12.

Under the higheſt magnifier, theſe ſubſtances appear to conſiſt of a very pellucid and tender pedicle, ſupporting a nearly opake globule, filled with a granulated maſs. f. 13.

When the leafits and leaf are quite unfolded, all theſe ſubſtances diſappear, whilſt thoſe on the under ſurface gradually enlarge, and ripen their ſeed.

ASPLE'NIUM *Tricho'manes*. Whilſt this ſprings out of the ground and is yet rolled inwards, the leafits are very minute and fleſhy. On their under ſurface, when highly magnified, creſcent-ſhaped membranes may be perceived covering the minute grains which afterwards become capſules. At the ſame time, but chiefly towards the middle nerve of the leafit, white ſhining globules are found. Theſe put into a drop of water, and viewed with the higheſt magnifier, will be ſeen to conſiſt of a thick and very tranſparent foot-ſtalk, ſupporting a globule filled with a granulated maſs. f. 14. f. 1

It is unneceſſary to be particular reſpecting the ASPLE'NIUM *Scolopen'drium*, ASPL. *Ruta-muraria*, POLYPO'DIUM *F. Mas*, POLYPOD. *Phægop'teris*, POLYPOD. *Dryop'teris*,

opteris, all which I have examined in a recent ſtate, and in all which I have found ſimilar organs, at the time the leaves firſt put forth.

The membranaceous ſcaly productions upon the ſtalks, ſo plentiful in ſome ſpecies, have probably been the coverings of the now expanded parts, during the winter ſeaſon.

There can be no doubt as to the uſes of the other parts deſcribed above. None of theſe parts are found in the full grown plant. It is well known that whilſt perennial plants ripen their ſeeds, the formation of new fructifications is going on. It is ſhewn, that the EQUISETUM's perform their impregnations before they ſpring up. When the curled-up leaves of the Ferns begin to unfold, the Capſules are generally ſwollen; this is particularly obvious in the OSMUNDA *regalis*, whoſe fertile leaves ſhoot up early in the ſpring, and ripen their capſules in July.

There can be no doubt that theſe Capſules are real Seed-veſſels, ſometimes opening vertically, and ſometimes horizontally into two hemiſpheres, which are ſurrounded by an elaſtic ring.

Explanation of the Plate belonging to the FILICES.

Pl. xiii. FIG. 1. A fruit bearing head of the Equiſetum *ſylvaticum* of its natural ſize, beginning to diſperſe its ſeeds.

2. A Capſule bearing Target, with its fruit-ſtalk magnified.*

3. An unripe Seed, with its chives.

4. A ripe Seed, with the duſt of the tips ſcattered on the threads.

5. A Seed-bud, with the Chives rolled round it in their natural poſition.

6. A Seed of the Equiſetum *paluſtre*.

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* To prevent repetition, it is always underſtood that the parts are more or leſs magnified, unleſs when the contrary is particularly expreſſed. The Author uſed a good compound Microſcope, with ſix magnifying powers.

FIG.

Fig. 7. A particle from the ſide of the Stalk of the Ophioglosſum *vulgare*, whilſt very young. *(a)* the convex part, bearing both the Chives and Pointals. *(b)* a portion of the ſkin, with a little of the pulp, from the outer ſide of the ſtalk. *(c)* the ſame from the inner ſide. Pl. xiii.

8. Tips of the ſame plant ſimple and compound.

9. A back view of a ſpike of the Oſmunda *ſpicant*, of its natural ſize.

10. A particle of the leaf with a ſingle leafit. *(a)* the leafit. *(b b)* Scales. *(cc)* membranaceous coverings of the Capſules.

11. A particle of the ſame more highly magnified. *(a)* the rib, with the Chives on it. *(bb)* the membrane turned back each way. *(cc)* the rudiment of the fruit.

12. An extremely ſmall leafit of the Polypodium *Filix-fæm.* carefully expanded to ſhew the Chives.

13. Two of the Chives taken out.

14. Leafits of the Aſplenium *Trichomanes* from the yet unfolded extremity of the leaf. The Globules ſupported on foot-ſtalks are the Chives; the oblong ſpots the membrane covering the pointals.

15. Two of the Chives taken out.

16. A particle of the receptacle of the fertile florets. *(a)* the receptacle. *(b)* the ſkin of the leafit, with its air ducts.

The Uses of the Filices are but little known: few of them are eſculent. They have a diſagreeable heavy ſmell. In large doſes they deſtroy worms, and ſome of them are purgative. The aſhes produced by a ſlow incineration of the green plants, contain a conſiderable portion of vegetable alkaly, and in this kingdom are very generally ſold under the name of Aſhballs, to make lye for the ſcouring of linen.

" In the hot houſe they become evergreens, and their " beauty is greatly improved in colour and delicacy. The " leaves if cut down when fully grown, and properly " dried, make a thatch more durable than that of any kind " of ſtraw.

" In moſt of the Genera of the ſecond ſubdiviſion, the " ſeedling plants require a ſucceſſion of ſeaſons before they " produce

" produce their fructifications. The *first* year a ſingle leaf " is produced, which ſeldom attains to more than an inch " in height, is thin, ſemi-tranſparent, and moſt commonly " entire. The *ſecond* year two or three are produced, one " larger than the other. The *third* year, four or five are " produced, and the *fourth* year, more in number proportionable to the richneſs of the ſoil and the ſuitableneſs " of the ſituation. In moſt fertile ſoils, ſhaded ſituations, " moſſy dripping rocks, or near currents or rills of ſpring " water, the leaves are thin, light and ſemi-tranſparent; " larger and more numerous, and apt to become monſtrous " in ſhape or ſize. On dry rocks, and in barren ſoils " expoſed to air and ſun, the leaves are few, ſhort, firm and " opaque, producing ſeeds in fewer years from the firſt " ſpringing up, and they generally retain their own proper " figure." BOLT.

MUS'CI. Moſſes.

This Order is ſubdivided according as the CAPSULES have a VEIL or no VEIL: as they are upon the ſame plant with the CHIVES, or upon different plants; and as the CHIVES are *ſolitary* or incorporated. The

SEEDS conſiſt only of a *Corcle* without any *Coat* or *Seed-lobes*.

HEDWIG defines Moſſes, as being vegetables in which the female parts of fructification are furniſhed with a Veil-like Petal, bearing a ſhaft. He divides them into two Orders;

1. *Capſule* either entire, lidded, and opening tranſverſely: *frondoſi*.

2. *Capſule* with four Valves, opening lengthways: *hepatici*.

Theſe definitions exclude the LYCOPODIUM's from amongſt the Moſſes. Perhaps they ſhould rank with the Oſmunda; but their fructification has not yet been ſufficiently examined.

§ 1. DE

§ 1. De Muscis frondosis. These are the proper Mosses, or Musci of Linnæus.

If we except the Bryum *pomiforme*, *subulatum* of Haller, —*trichodes*, and a few other non-descript species, the Mosses bear the Chives and Pointals in separate flowers, either on the same, or on distinct plants.

The time of flowering generally coincides with that of the fruit attaining maturity, as happens in other evergreen perennials. Thus in the Polytrichum *urnigerum*, Mnium *fontanum*, *hornum*, *punctatum*, *undulatum*; Bryum *trichodes*, *cæspititium*, &c. the veils fall off early in the spring, and the seed is scattered abroad; whilst at the same time the less obvious unimpregnated Seed-buds, and the barren Chive-bearing Flowers, are performing their respective functions. This circumstance has caused these ripe Capsules to be mistaken for Tips, and the Seeds for the Dust.

Calyx *seu* Perichaetium; *Empalement, or Fence.*

Both the Barren and Fertile flowers are furnished with a Fence, which gives the outward figure to the flower. It varies more in the barren flowers than in the fertile ones, and is more to be attended to. The radiated disks of the Polytrichums and the Mniums, are very remarkable, and the scales composing them differ in many respects from the other leaves of the plant. The heads which put forth at the extremities of the Bryums have been hitherto unnoticed, though they contain the parts of fructification, and are composed of leafits or scales different both in shape and size from the stem-leaves. Thus in the Bryum *rurale*, they are not terminated by hairs, and are shorter than the stem-leaves; in the Br. *pellucens*, Br. *scoparium*, Br. *heteromallum*, Br. *aciculare*, &c. they are broader than the other leaves, and more hollow at the base. Where the disk-like substances form a kind of bud, as in almost all the Hypnums, the Bryum *extinctorium*, Br. *subulatum*, Br. *pulvinatum*, Br. *hypnoideum*, &c. they are much smaller than the leaves; they are also concave, egg or spoon-shaped, and destitute of the hairs which adorn the real leaves of the plant. These therefore are truly the Empalement, or Fence, and as they include the florets with Chives only, we call them the Fences of the *barren* Florets.

Upon

Upon an accurate inſpection of the Moſſes which bear Capſules towards their extremities, i. e. fertile flowers, we obſerve that the leaves adjoining to the fruit-ſtalk are much more beautiful than thoſe on the ſtems. But ſometimes the inner leaves become gradually ſmaller, and thoſe neareſt to the flowers ſo very minute, that without a Microſcope it is not poſſible to diſſect them away ſo as to expoſe the flower. Thus pl. xiv. f. 19. exhibits a plant of the BRYUM *pyriforme*, *(a)* contains the barren, *(b)* the fertile flower; f. 20. ſhews the fertile flower laid bare to the laſt conſpicuous leaf, within which the flower lies hidden, but this being removed, other ſtill ſmaller ſcales come into view, f. 21.

Theſe therefore are to be conſidered as the fences of the fertile flowers, ſurrounding and embracing the Seed-bud. Theſe fences, like thoſe in many other well known plants, often grow larger as the capſule advances to matu-
Pl. xiv. f. 17. rity. A ſmall plant of the BRYUM *extinctorium*, with the lower leaves taken away, to ſhew the bud-like Empalement of the barren floret, *(a)*

f. 18. A plant of the BRYUM *pulvinatum*, with the leaves taken away, to ſhew the flowering buds, *(a)* the barren, *(b)* the fertile flower.

f. 19. A fertile and a barren plant of the BRYUM *pyriforme*.

f. 20. The fertile floret encloſed within its innermoſt leaves.

f. 21. The ſame, with all but one of its leaves removed.

Flowers with Chives.

The TIPS are almoſt univerſally cylindrical, and either ſtraight or crooked, but in the SPHAGNUM *paluſtre*, and the MNIUM *androgynum*, they are egg-ſhaped and more or leſs tapering to a point. Their colour is a very dilute green, almoſt white. When viewed under the higheſt magnifiers, and ſtrongly illuminated by reflected light, they are found to contain a granulated ſubſtance; but their tops are very pellucid, and this pellucid part expands into a riſing veſicle at the time the duſt is about to be diſcharged, as at *c* pl. xiv. f. 22. The top then opens and the duſt is ejected, the ſpace from which it iſſues becoming more tranſparent. This duſt, when evacuated, ſeems to explode in the drop of water, in which theſe obſervations ought to be made. See f. 23.

Beſides

Beſides the Tips, included within the ſame fence, we find ſome very delicate ſucculent bodies, of various ſhapes. In the POLYTRICHUM *commune* they are club-ſhaped, but tapering to a point; in the MNIUM *fontanum*, and *paluſtre*, the BRYUM *rurale*, and *undulatum*, they are jointed and bluntiſh. In the BRYUM *hornum* the laſt joint is ſharp. In MNIUM *ſerpyllifolium*, *punctatum*, *cuſpidatum*, and BRYUM *pyriforme*, they have a jointed ſtem terminated by a globule, f. 24. In the MNIUM *hygrometricum* they have different ſhapes in the ſame floret; in ſome they are thread-ſhaped and more or leſs pointed; in the SPHAGNUM *paluſtre* they encircle the tip. Sometimes they are much longer than the tips, as in the BRYUM *pellucidum* and *pyriforme*, at other times ſhorter, as in BUXBAUMIA *ſeſſilis*, and BRYUM *pulvinatum*.

We muſt add, reſpecting the ſhape of theſe barren florets, that in the POLYTRICHUMS and MNIUMS ſome are like diſks, others like roſes, and ſome like ſtars, when in a fully expanded ſtate. In the ſtellated Polytrichums, the ſcales are placed in concentric circles. In MNIUM *hornum*, *paluſtre*, *fontanum*, &c. they are more like a roſe or a diſk. After the duſt is diſperſed, theſe roſes or ſtars become more expanded, but, previous thereto, they are generally ſo open as to admit a view of the parts they contain. In ſome Moſſes the flowers terminate the branches, as in MNIUM *pyriforme*, and *purpureum*; BRYUM *pellucidum*, *aciculare*, *ſcoparium*, *heteromallum*, *viridulum*, *ſimplex*, &c. in ſuch, though a little open, they are not enough ſo to allow a ſight of the tips until the flowering be paſt. Some florets are like buds, and ſit in the boſom of the leaves, and others in the tiled and thickened termination of the branches as in the SPHAGNUM.

Two Chives of the BRYUM *extinctorium*, *(c)* one ready to burſt, *(d)* one throwing out its duſt, *(e e e)* ſucculent veſſels. Pl.xiv. f.22.

f. 23. A Tip of the BRYUM *truncatulum* viewed in the Solar Microſcope whilſt it throws out its duſt.

f. 24. A Tip of the BRYUM *pyriforme*, with *(a a)* the ſucculent veſſels.

Flowers

Flowers with Pointals.

Theſe are furniſhed with the uſual female organs, viz, a Seed-bud, a Shaft, and a Summit, pl. xiv. fig. 25; but being accompanied by other ſubſtances much reſembling them, they are difficult to be diſtinguiſhed until the Seed-bud begins to ſwell, in conſequence of its impregnation. Theſe ſubſtances, of whoſe uſe I acknowledge myſelf ignorant, may for the preſent be called *ſucculent* pointals, ſee fig. 26. They are ſo like the real pointals that one might readily believe nature had formed the flowers with many pointals, in order that ſome might have the better chance of impregnation. But there are ſeveral circumſtances which refute this ſuppoſition. Probably they are intended to ſupply the flowers with moiſture in dry weather.*

Pl. xiv. f. 25. The rudiment of the fruit, or pointal of the BUXBAUMIA *ſeſſilis*.

f. 26. A fertile flower of the BRYUM *extinctorium*, with the *ſucculent* pointals.

Of the Capſule and the CALYPTRA *or Veil.*

The pointal after impregnation daily growing larger and riſing upwards, ſhews the part well known by the name of Calyptra or Veil. It may be conſidered as a kind of Petal, which is perforated at the top by the ſhaft of the Pointal. This ſhaft is ſometimes permanent, falling off with the Veil, but where it is not ſo, the remains of it are always to be found.

f. 27. A capſule of the BRYUM *pulvinatum*, with a part of the fruit-ſtalk. The VEIL being thrown off, the RING and the PERISTOMA or FRINGE become viſible.

f. 28. The RING when ſeparated and expanded.

f. 29. The VEIL.

f. 29.* The VEIL of the JUNGERMANNIA *puſilla*.

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* Theſe ſubſtances may aptly be compared to the florets with ſuperfluous Pointals in the order Polygamia ſuperflua of the claſs Syngeneſia, or to the barren florets in the Rundle-bearing plants of the Pentandria claſs; and their uſes may probably be the ſame, whatever thoſe uſes may be. WITH.

The

The Capſule or Seed-veſſel.

From what has been alledged, it is evident that what Linnæus called the Antheræ, or Tips, are really the Seed-veſſels, and by ſowing the Seed which they contain, I have repeatedly procured a crop of young plants, in all reſpects ſimilar to their parents.

The Capſules of Moſſes are always ſupported upon a fruit-ſtalk, though ſometimes it is very ſhort, and excepting only in the SPHAGNUM *paluſtre*, this fruit-ſtalk is ſheathed and conical at its baſe. The CAPSULES vary in ſhape, ſize, and conſiſtence. In ſome ſpecies there is an elaſtic ring between the Capſule and the Veil, pl. xiv. f. 28, which when the Seed is ripe, throws off the Veil with more or leſs force. The Veil, f. 29, being thrown off, we find certain fringe-like proceſſes or projections, f. 27. *(a)* varying greatly in ſize, ſhape, ſtructure, number and diſpoſition. They ſurround the opening of the capſule in a ſingle or double, rarely in a triple ſeries. Theſe ſubſtances I ſhall beg leave to call the PERISTOMA.* The uſe of this Periſtoma or Fringe, ſeems to be to defend the Seeds in wet weather. In dry weather it expands and leaves the mouth of the Capſule open, but upon the leaſt moiſture, even that of ones breath, it cloſes again.

Seeds.

The Seeds of Moſſes are ſpherical, generally ſmooth, ſometimes *dotted* as in BRYUM *extinctorium*, ſometimes *prickly*, as in BRYUM *pyriforme*, or *heteromallum*. They are brown, yellow, or greeniſh.

USES.—Mosses thrive beſt in barren places. Moſt of them love cold and moiſture. Trifling and inſignificant as many people think them, their uſes are by no means inconſiderable. They protect the more tender plants when they firſt begin to expand in the ſpring, as the experience of the gardener can teſtify, which teaches him to cover with Moſs

* On the varying ſtructure of the Periſtoma, and the figure and diſpoſition of the barren florets, the author propoſes to eſtabliſh the Genera of Moſſes,

Moſs the ſoil and pots that contain his tendereſt plants; for it equally defends the roots again the ſcorching ſun beams and the ſeverity of the froſt. In the ſpring, when the ſun has conſiderable power in the day time, and the froſts at night are ſevere; the roots of young trees and ſhrubs are liable to be thrown out of the ground, particularly in light ſpongy ſoils. But if they are covered with Moſs, this accident never can happen. Thoſe who are fond of raiſing trees from ſeeds, will find their intereſt in attending to this remark.

Moſſes retain moiſture a long time without being diſpoſed to putrefy. The angler takes advantage of this circumſtance to preſerve his worms, and the gardener to keep moiſt the roots of ſuch plants as are to be tranſported to any conſiderable diſtance.

It is a vulgar error to ſuppoſe that Moſſes impoveriſh land. It is true they grow upon poor land that can ſupport nothing elſe; but their roots penetrate very little, in general hardly a quarter of an inch into the earth. Take away the Moſs, and inſtead of more graſs you will have leſs; but manure and drain the land; the graſs will increaſe and the Moſs diſappear.

The SPHAGNUM *paluſtre*, the MNIUM *triquetrum*, the BRYUM *paludoſum* and *cæſtivum*, the HYPNUM *aduncum*, *ſcorpioides*, *riparium*, and *cuſpidatum* grow upon the ſides and ſhallower parts of pools and marſhes; and in proceſs of time; occupying the ſpace heretofore filled with water, are in their half decayed ſtate dug up and uſed as fuel under the name of Peat. Theſe marſhes, drained partly by human induſtry, and partly by the long continued operations of vegetables, are at length converted into fertile meadows.

Very few Moſſes are eaten by cattle. The Biſhop Moth and the Bruſſels Lace Moth feed upon ſome of them. Their medicinal virtues are but little known, and leſs attended to. I think it probable that on account of their aſtringent properties, ſome of them might be worth trying as a ſubſtitute for Oak bark in tanning leather.

AL'GÆ. Thongs.

The plants compriſed under this diviſion ſcarcely admit of a diſtinction of root, ſtem, and leaf; much leſs are we enabled to deſcribe the parts of the flowers. The Genera therefore are diſtinguiſhed by the ſituation of what we ſuppoſe to be the flowers or ſeeds, or by the reſemblance of the whole plant to ſome other ſubſtance we are well acquainted with.

Linnæus calls the plants of this Order SEA-WEEDS, but with no great propriety; for very few of the Genera have any thing to do with the ſea. We rather chooſe to call them THONGS, becauſe the ſubſtance of moſt of them is more or leſs like leather, and many of them are in the form of Thongs. In plate 1ſt. E. and F. are ſpecimens of one of the Genera, and G. of another.

Theſe plants, though generally looked upon as unworthy of notice, are of great conſequence in the œconomy of nature, and afford the firſt foundation for vegetation. Thus one ſpecies of the BYSSUS, and ſeveral ſpecies of the LICHEN fix upon the bareſt rocks, and are nouriſhed by what ſlender ſupply the air and the rains afford them. When theſe die, they are converted into a very fine earth in which the tiled LICHENS find nouriſhment, and when theſe putrefy and fall to duſt, various Moſſes, as the BRYUM HYPNUM, &c. occupy their place; and in length of time when theſe periſh in their turn, there is a ſufficiency of ſoil in which trees and other plants take root. This proceſs of nature is ſufficiently apparent upon the ſmooth and barren rocks upon the ſea ſhore.

Some of the FUSCI are eſculent.

Many of the LICHENS are a grateful food to Goats; and the Rein-deer, which conſtitutes the whole œconomy of the Laplanders, and ſupports many thouſand inhabitants, lives upon one of the ſpecies. Many of the ſpecies afford colours for dying. One of them brought from the Canary Iſlands, viz. the Orchel, or Argol, makes a very conſiderable article of traffic. It is not improbable that ſome of the ſpecies growing in our own iſland may afford very beautiful and uſeful colours; but this matter has not been ſufficiently examined. Mr. Hellot gives us the following proceſs for diſcovering whether any of theſe plants will yield a red or purple colour. "Put about a quarter of an

"ounce

" ounce of the plant in queſtion into a ſmall glaſs; " moiſten it well with equal parts of ſtrong Lime-water " and ſpirit of Sal Ammoniac; or the ſpirit of Sal Ammo- " niac made with quick-lime will do without Lime-water. " Tye a wet bladder cloſe over the top of the veſſel, and " let it ſtand three or four days. If any colour is likely " to be obtained, the ſmall quantity of liquor you will " find in the glaſs will be of a deep crimſon red; and the " plant will retain the ſame colour when the liquor is all " dried up. If neither the liquor nor the plant have " taken any colour, it is needleſs to make any further " trials with it."

Mr. HEDWIG calls ſeveral of the Algæ MUSCI *hepatici*, and ſhapeleſs and unorganized as ſome of them ſeem, his genius, aided by indefatigable induſtry, has explored the heretofore latent ſecrets of their fructification. Of theſe diſcoveries I ſubjoin an abſtract ſufficient perhaps to excite others in this country, who may have leiſure, to a ſtill further proſecution of a ſubject, in which much ſtill remains to be diſcovered.

§ 2. De MUSCIS HEPATICIS.

All the fertile florets have a double Empalement, or a CUP and a BLOSSOM. In ſhape and ſtructure they greatly reſemble the *Muſci frondoſi*, but I have never found the ſucculent threads; the Pointal-like ſubſtances are however found, accompanying both the Seed-bud and the ripened Capſule; but not in all the ſpecies.

The Capſule, like thoſe of the preceding Moſſes, is incloſed in a Veil, to which the Shaft adheres; but this Veil is not as in them, looſened at its attachment and raiſed along with the growing Capſule, it tears open in two, three, or four places, and has therefore been ſometimes conſidered as a petal.

All theſe Moſſes agree in ripening their fruit, which is raiſed upon an elongated fruit-ſtalk, and opens into four Valves, filled with the ſeeds, attached to elaſtic cords. Theſe Seeds proved upon trial to reproduce their reſpective plants.

JUNGERMAN'NIA *nemo'rea*. It bears its barren flowers, which are of a reddiſh brown colour, at the ſummit or extremity of the Stem, in one plant, and its fertile florets at the extremity of another plant.

f. 30. A barren plant of its natural ſize. Pl. xiv.
f. 31. The flowering ſummit of the barren plant.
f. 33. The ſeed-bud of the fertile plant, with its pointal, and 3 pointal-like bodies at its baſe, taken from the fencing leaves at the top of the plant.

JUNGERMAN'NIA *aſplenioi'des*. The extremity of the Chive-bearing plant forms a beautiful tiled, two-rowed fence of leafits, very concave at the baſe, within each of which are found 2 or 3 Chives, of a milky colour. The fertile flowers are on a diſtinct plant, included alſo in a leafy fence, at the top of the plant.
f. 35. A barren plant of its natural ſize.
f. 36. The tiled leaves at the extremity of the plant, which include the Tips.
f. 37. A Tip taken out of the leafy fence.
f. 38. A Tip open at the end, after ſhedding its duſt.
f. 39. A fertile plant of its natural ſize.
f. 40. The Seed-bud with its ſhaft and accompanying pointal-like veſſels, taken out of its fence-leaf at the extremity of the plant.
f. 41. The Seeds, with the elaſtic threads to which they are attached.

JUNGERMAN'NIA *puſil'la*. The Chives very much reſemble thoſe of the Sphagnum *paluſtre*; they are placed upon the Stem, in the boſom of the leaves: their colour greeniſh, changing to yellow. The fertile flower is found towards the top of the ſame plant, included in a leafy fence; but by the growth of the plant during the ripening of the Capſules, they are at length found about its middle.
f. 42. The plant of its natural ſize.
f. 43. The ſame magnified, to ſhew the 4 Chives at its baſe, and the fertile flower at its ſummit. Pl. xv.
f. 44. A Chive more highly magnified. Pl. xiv.
f. 45. The Seed-bud and Shaft taken out of its leafy fence.
f. 29.* The Veil ſeparated from the ripened Capſule.
f. 46. A Seed, with its elaſtic thread.

JUNGERMAN'NIA *palma'ta*. The flowers with Chives are found at the extremities of the branches; after flowering, they fall off, and give the branch the appear-

appearance of having been lopped. The fertile flower is generally at the baſe of the branches, but ſometimes alſo at their ſides, on a diſtinct plant.

Pl. xiv. f. 47. A barren plant of the natural ſize.

Pl. xv. f. 48. The ſame magnified, to ſhew the barren florets *(aa)*. *(c)* one of them open at the end.

Pl. xiv. f. 49. Two Chives ſeparated.

f. 50. A fertile plant of the ſame ſpecies magnified, with the Capſule open, its valves turned back, and the elaſtic threads at its extremity.

f. 51. The elaſtic thread, with the ſeeds.

JUNGERMAN'NIA *furca'ta*. The barren flowers of this are found concealed in the ſubſtance of its trunk; its fertile ones are on the ſame plant, and poſſeſs nearly a ſimilar ſituation.

Pl. xv. f. 52. The plant of the natural ſize.

f. 53. A ſmall bit of it highly magnified, to ſhew the two barren florets *(aa)*. and the fertile floret *(b)*.

f. 54. A barren floret further magnified.

f. 55. A Chive ſeparated.

f. 56. The Empalement of the fertile floret cut through lengthways.

f. 57. The ripe Capſule open, and the Seeds adhering to the elaſtic threads.

JUNGERMAN'NIA *epiphyl'la*. The barren florets form protuberances on the upper ſurface of the leaves. The fertile florets are formed at the extremity of the leaf, but as they ripen, the growth of the leaf continuing, they ultimately appear on its diſk. Want of attention to this circumſtance has given riſe to errors reſpecting the ſpecies of theſe plants.

f. 58. The plant ſomewhat magnified to ſhew more diſtinctly the dots of barren florets, and the fertile floret concealed under its ſcaly empalement at the end of the leaf, at *(d)*.

f. 59. The fertile floret taken out of its empalement.

MARCHANT'IA *polymor'pha*. Early in the ſpring we find upon this plant certain glaſs-ſhaped cups, containing lentile-ſhaped ſubſtances; theſe are perfect young plants, either formed at once from the parent plant, or elſe growing from ſeeds depoſited thereon. Soon after

we

we may obſerve ſome entire targets formed; and as theſe riſe upon their foot-ſtalks, on other plants, either on the ſame, or on a different tuft, ſtellated targets appear, which grow taller than the entire ones. The entire targets, when cut through, vertically, are found to contain the Chives; ſurrounded by their ſucculent veſſels. The ſtellated targets contain the ſeed-buds, two or three of which are found under each of the rays, inveſted with its membrane, out of which the pointal projects previous to the impregnation of the ſeed-bud. Theſe ſeed-buds do not ripen all at the ſame time. In a favourable ſituation this plant flowers again in July. From what has been ſaid, it is evident that it belongs to the claſs DIOECIA.

f. 60. A target of barren flowers cut perpendicularly down through the foot-ſtalk. Pl. xv.

f. 61. A follicle of Chives taken out and more magnified to ſhew its ſurrounding ring.

f. 62. A Seed-bud, with its ſhaft projecting.

f. 63. A Capſule, with its 3 ſucculent fibres.

f. 64. An elaſtic cord taken out of the ripe Capſule, with one of the ſeeds.

MARCHANT'IA *co'nica*. The barren flowers are ſitting; in every other reſpect they ſo exactly reſemble thoſe of the preceding ſpecies, as to render any further deſcription of them unneceſſary; but the fertile flowers have a ſingular ſtructure in reſpect to the pointals. At the time the Chives attain perfection, the conical aſſemblage of fertile flowers diſplays within their proper membranes as many pointed ſhafts, as there are ſeed-buds. On account of their tender ſtructure it is very difficult to examine them, but when nicely diſſected, the ſhaft appears to proceed from the baſe of the ſeed-bud, and to bend upwards towards its point. The capſule is furniſhed with a Veil, which does not fall off, but burſts by the expanſion of the Capſule, which at length, when quite ripe, opens with 4 Valves, which roll back.

f. 65. A diſk of barren florets cut down perpendicularly. Pl. xv.

f. 66. Six fertile flowers taken from the common fruit-ſtalk, with the ſix ſhafts bent back.

f. 67. A ripe Capſule opened by the rolling back of the Valves *(h)*. ſhewing the ſeeds fixed to the elaſtic cords *(i)*.

ANTHO'CEROS *læ'vis*. The Chives, covered by the outer ſkin of the leaf, form ſpots of a yellowiſh green colour, and ſomewhat raiſed. As they approach to maturity, the ſkin burſts and contracts into an oval ſhape, forming an Empalement. Each of theſe ſpots contains three or more follicles of Chives, of a reddiſh yellow colour. Each Chive is furniſhed with its thread, and ſurrounded by a jointed ſucculent veſſel. At the ſame time the fertile flower aſſumes an elevated conical figure, ſupporting a Veil on its extremity, furniſhed with a very ſhort ſhaft. When ripe, it changes to a dark brown colour, divides into two valves, ſcattering its ſeeds with an exploſive power.

The ANTHOCEROS *punctatum* reſembles this ſpecies in its parts of fructification.

Pl. xvi. f. 68. A part of the leaf magnified, to ſhew one fertile, and four barren florets.

Pl. xv. f. 69. Two of the Chives taken out of a barren floret.

f. 70. A perpendicular ſection, to ſhew the Capſule juſt emerging from its ſheaths, and ſupporting its veil.

Pl. xvi. f. 71. The ripe Capſule opened, with the columnar receptacle, and a few remaining Seeds.

f. 72. A ripe ſeed, prickly, and its elaſtic membrane.

BLA'SIA *puſil'la*. It flowers in the beginning of May; at which time the leaf is narrow, and the Chives appear very near to its rib; but as the membranaceous parts expand, with the growth of the leaf, they at length appear at a diſtance from the rib. The Tips are yellowiſh, rather protuberating, incloſed in a follicle, from which they are with difficulty extracted. Towards the end of the plant we diſcover the pointal, with its ſummit ſitting on the rudiment of the fruit, but it is very fugacious. As the fruit ripens, the place before occupied by the ſhaft appears as a tube, not unlike the conical horn of the Anthoceros. The Capſule now becomes more heart-ſhaped, and its narrow point looks towards the root of the plant. At length the globular ſeeds in its cavity become diſtinct; and when ripe they are puſhed out of the mouth of the tube either by their own expanſion, or by the contraction of the capſule, and ſticking there, have an appearance like the barren floret of the Mnium *androgynum*.

f. 73. The plant magnified, to ſhew the dots of the barren florets, and the two fertile ones.

f. 74. A

f. 74. A Chive taken out of a barren floret. Pl. xvi.

f. 75. An unripe Capſule divided perpendicularly to ſhew the ſeeds.

RIC'CIA *glaū'ca*. The leaf has no rib, but ſeems compoſed of veſſels equally diſperſed. When magnified, it appears covered with tubercles, and amongſt theſe we obſerve diſtinct ſhining globules. One of theſe globules when nicely diſſected, and expoſed to the higheſt magnifying power, in a drop of water, appears of a granulated texture. I conſider thoſe as the Tips, for nothing elſe appears like them. The fertile flower lies imbedded in the ſubſtance of the plant, where it ripens its fruit. They who reflect how ſmall a part of a body is dedicated to the purpoſes of generation in compariſon of its whole bulk, will conceive the difficulty of obſerving the very minute pointal of this plant, buried as it is in the ſubſtance of the plant, its ſummit only, opening on its ſurface. As the Capſule ſwells, it becomes more apparent, and by a perpendicular ſection through the ſubſtance of the leaf, we diſcover the ſhaft, of a beautiful brown colour, aſcending from the Capſule to its ſurface. The ſeeds are at firſt white, afterwards greeniſh, but nearly tranſparent, and ſurrounded with a very tranſparent white border. The Capſules, when ripe, open on the ſurface of the plant, forming a black ſpot, viſible to the naked eye. They are generally obſervable towards the baſe of the leaf.

f. 76. The plant of its natural ſize.

f. 77. Part of the ſame magnified, to ſhew the more ſuperficial ſpots containing the Chives, and the deeper ſeated fertile flowers *(a a)*.

f. 78. A follicle of Tips ſeparated, and highly magnified.

f. 79. A perpendicular ſection through the ſubſtance of the plant, to ſhew the ripening capſules, and their ſhafts riſing up to the ſurface of the leaf.

f. 80. A Capſule taken out, together with its ſhaft.

LI'CHEN *cilia'ris*. The fringes from the extremities deſtined to take root, and the downy matter on the ſurface, have nothing to do with the real parts of fructification. Theſe are to be found in the concave ſaucers, or convex targets or warts, either on the ſame or on a different plant. They both ariſe from a kind of

knot on the under ſurface of the plant. The warts change to a brown and then to a black colour at the top; but before they become brown, a perpendicular ſection through one of them, diſcovers a ſingle or double cell buried in the tender pulp of the plant, and filled with a granulated ſubſtance. Whenever the top of this wart or tubercle turns black, the granulated maſs has then eſcaped through it, and only a kind of jelly remains in the cells; which however ſoon vaniſhes, whilſt the whole tubercle becomes black and hard. This proceſs is performed in a ſhort time.

The riſing particle which is deſtined to form a concave ſaucer, becomes hollow and green at the top, through which if we make a perpendicular ſection, we find fibres radiating from its center, and forming a ſemi-circle, bounded by a more opake line. As this continues growing, the ſaucer becomes larger and more and more open. Its cavity is at firſt reddiſh, gradually becoming darker. At length it becomes a perfect ſaucer, either ſitting, or ſupported on a ſhort foot; its border ſcolloped or entire, black within when moiſt, and greyiſh when dry.

If now we cut the ſaucer through, and examine a vertical ſection of it in a little water, we ſhall find immediately under the black cruſt at the top, the ſeeds diſpoſed in ſtraight perpendicular columns. When very highly magnified theſe ſeeds appear egg-ſhaped, but marked with a diſtinct groove tranſverſely. No unprejudiced perſon can therefore doubt that the warts with the black tops are the barren flowers, and the ſaucers the fertile ones.

The ſaucers in all the ſpecies of Lichens reſemble the above in their mode of flowering, and in the ſame diſpoſition of their fruit. The chive-bearing flowers are alſo ſimilar, whether contained like thoſe of the L. *ciliaris* in the ſubſtance of the plant, or as in others, on its ſurface. In ſome ſpecies, as in the L. *phyſodes*, they are found on the extremities of the branches; in others on the edges, as in the L. *farinaceus*; *fraxineus*; in others again on the under ſurface, as in the L. *pulmonarius*, *aphthoſus*, &c. where they ſometimes form circles ſomewhat reſembling ſaucers, as in the L. *ſtellaris*.

Pl. xvi; f. 81. Part of the plant magnified, to ſhew *(ooo)* the barren, and *(m)* the fertile flower. *(nn)* the fringes which ſtrike root; ſome of them expanding at the the end.

f. 82. The ſection of a chive-bearing flower cut through perpendicularly.

f. 83.

f. 83. The ſection of an unopened fertile flower. Pl. xvi.
f. 84. Section of a flower, with the ripe ſeeds.
f. 85. Ripe ſeeds taken out.

LI'CHEN *phyſo'des.*
f. 86. The barren plant of its natural ſize.
f. 87. Its Chive-bearing extremity highly magnified.

FUN'GI. Funguſſes.

We know very little about the Flowers or Seeds of the Funguſſes; the generic characters are therefore taken from their external form. In plate 1. at H. a ſpecies of AGARIC is repreſented to ſhew *(a)* the RING; *(b)* the STEM; *(c)* the PILEUS.

All the Genera under this diviſion, particularly the LYCOPERDON, and MUCOR, abound with a black powder, which examined with a good Microſcope is found to conſiſt of globules which are ſuppoſed to be the ſeeds. But the Baron MUNCKHAUSEN ſays theſe globules are ſemi-tranſparent, containing a little black particle. He ſays too that if this powder is mixed with water and kept in a warm place, the globules preſently ſwell and are changed into egg-ſhaped ſelf-moving animalcules. In about two days theſe animalcules unite and form a maſs of a pretty firm texture, or Fungus. When theſe Funguſſes begin to grow, they appear like white veins, which are commonly ſuppoſed to be the roots; but in fact they are only tubes in which the animalcules move, and in a ſhort time are transformed into a Fungus, which, with plenty of moiſture, and a proper degree of warmth, grows to a very large ſize. The black powder found betwixt the gills of Muſhrooms produces the ſame phænomena.

A fact ſo ſingular could not fail to excite the attention of philoſophers, and accordingly the accurate and ingenious Mr. Ellis, whoſe diſcoveries in many abſtruſe parts of the animal and vegetable kingdoms do him the higheſt honour, undertook the ſubject, and ſoon demonſtrated that the motion of theſe globules was occaſioned by a number of very minute animalcula feeding upon them; but the animalculæ being much ſmaller than the globules are difficult to detect, on which account the Baron ſeems to

to have overlooked them.—See Philoſophical Tranſ. vol. lix. p. 138.—See alſo Gent. Mag. for 1773, p. 316.

Funguſſes have been ſought for as food, upon account of their fine flavour; the ſpecies uſed in this iſland for that purpoſe are very few, in France they are more generally adopted, and ſtill more ſo in Italy; but we are told that in Ruſſia they are eaten almoſt indiſcriminately, ſalted and kept for winter uſe. It is certain that many people in this country have been killed by eating ſome of the ſpecies, but I believe few of them are really poiſonous, in the ſtrict and proper ſenſe of the word. Some of them have been found of conſiderable uſe in ſtopping external hæmorrhages, and the acrimonious qualities of others will probably ſome day be turned to good account.

The following are the principal diſcoveries of HEDWIG on the ſubject of Fungi.

AGARICUS *(Amanita) arborea mollis, coloris exacte crocei, Dill. Giſſ. p.* 182.

On dividing a plant of this ſpecies longitudinally through the middle, before the Curtain had began to ſeparate from the edge of the Pileus, the whole inner ſurface appeared white; but whilſt my attention had been arreſted by ſome ſtill whiter lines obſervable in the fleſh of the Pileus and of the ſtem, the upper and inner ſurface of the Curtain changed to a violet, and in a ſhort time to a browniſh colour. On nicely raiſing a ſmall portion of this ſurface, and viewing it under high magnifiers, I diſcovered pellucid ſucculent veſſels, and innumerable oval globules connected therewith, of a dilute brown colour. The part from which this portion had been taken away, did not change colour again.

I next examined a portion taken from one of the Gills, whilſt it was yet white. It was diviſible, though not readily, into two lamina. The lower edge was thickly ſet with tender cylindrical ſubſtances, ſome of which had a globule at their extremities, but others not. The Gill itſelf appeared of a reticulated ſtructure, with larger and more diſtinct ſpots, a little raiſed.

In another older plant of the ſame ſpecies, when the Curtain was torn, the Pileus pretty fully expanded, and the Gills turned yellow, the upper part of the ſtem began

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to be tinged by a brown powder ſhed from the Gills. It was evident on examination, that this brown powder was the Seeds, and that it proceeded from the larger ſpots before obſerved in the Gills, the two laminæ of which now readily ſeparated.

f. 88. A view of the plant cut down lengthways. Pl. xvi,
f. 89. Strings of Chives, very much magnified.
f. 90. A portion of the Gill, to ſhew the unripe ſeeds.
f. 91. The ripe ſeeds.

There is therefore reaſon to believe that the Chives are the globules attached to the threads found within the Curtain. After theſe vaniſh, the plant continues to grow until it ſcatters its Seeds, and then it dies.

We learn from theſe obſervations, that the full expanſion of the Pileus indicates the maturity of the Seeds, and that the following is performed previous to the rupture of the Curtain.

On examining the Curtains and the Rings of different Agarics and Boleti, I have always found the above-mentioned globules on their upper or inner ſurface. In ſome of the yellow Agarics they are ſo numerous on the upper ſurface, as to ſtain the fingers when touched, but the under ſide is ſmooth and entirely deſtitute of them. Some few Agarics, ſeem to have only a row of theſe threads beſet with globules at the edge of the Pileus, whilſt it is in contact with the ſtem, and upon its expanſion they ſhrivel and drop off.

It is true that in many Agarics we neither find Curtain, nor Ring, nor theſe threads at the edge of the Pileus, but when this is the caſe, the threads are placed upon the Stem; and may readily be found by examining the plant in its very young ſtate, before the edge of the Pileus ſeparates from the ſtem. This ſtructure takes place in many of the Agarics, the Hydnum *imbricatum*, and the Boleti, which are rarely furniſhed with a Curtain. After the Pileus in theſe is expanded, and the ſtem grown longer, its upper part where the Chives were ſeated, becomes reticulated. The Seeds of the Boleti are found within the membrane that lines the tubes.

The ſtem-leſs Agarics and Boleti preſent ſimilar appearances about the edge, and at the baſe. I have alſo found ſomething of the ſame kind in the Peziza *cyathoides*, whoſe

ſeeds

ſeeds appear to be incloſed in a kind of pod; and likewiſe in one or more of the Lycoperdons; but theſe have not yet been ſufficiently examined.

Whether the ſucculent veſſels in the margin, fig. 90, or the ſurface of the gills, or the mouths of the tubes be, or be not, ſhafts and ſummits; or whether they are deſigned for any other purpoſe, I ſhall not determine.

It is however ſufficiently evident, that the Agarics, and the Boleti, are vegetables, and that they belong to the claſs MONOECIA.

Claſs XXIV.

CRYPTOGAMIA.

FLOWERS INCONSPICUOUS.

FI'LICES. Ferns.

* *Fructifications in a ſpike.*

1284. EQUISE'TUM. .... *Spike* ſcattered. *Flowers* target-ſhaped; with valves at the baſe.
1288. OPHIOGLOS'SUM. *Spike* jointed. *Fruit* cut round.
1289. OSMUN'DA. ..... *Spike* bunch-like. *Fruit* 2 valves.

** *Fructifications on the under ſurface of the Leaves.*

1290. ACRO'STICHUM. Covering the whole ſurface of the leaf.
1296. POLYPO'DIUM..... In diſtinct ſpots upon the ſurface of the leaf.
1295. ASPLE'NIUM. .... In ſeveral nearly parallel lines, upon the ſurface of the leaf.
1291. PTE'RIS. ..... In lines at the edge of the leaf.
1297. ADIAN'TUM. .... In ſpots, covered by the points of the leaves bent back.
1298. TRICHO'MANES. *Fructifications* ſolitary; inſerted in the very edge of the leaf.

*** *Fructifications at the Roots.*

1300. PILULA'RIA. .... *Capſule* with 4 cells.
1301. ISO'ETES..... .... *Capſule* with 2 cells.

MUS'CI.

CRYPTOGAMIA.

MUS'CI. Moſſes.

* *Without* Veils.

1302. LYCOPO'DIUM..... *Capſule* with 2 valves; ſitting.
1304. SPHAG'NUM. .... *Capſule* with a ſmooth mouth.
1305. PHAS'CUM. ..... *Capſule* with a fringed mouth.

** *With* Veils. Chives *and* Pointals *diſtinct.*

1308. SPLACH'NUM. .... *Capſule* with a large excreſcence.
Phaſcum ampullaceum.

1309. POLY'TRICHUM. *Capſule* with a very ſmall excreſcence; bordered.
Mnium polytrichoides. Bryum ſtriatum.

1310. MNI'UM..... *Capſule* without any excreſcence.

*** *With* Veils. Chives *and* Pointals *on the ſame plant.*

1311. BRY'UM. ..... *Capſule* on a fruit-ſtalk, riſing out of a tubercle at the end of the branch.
Phaſcum acaulon. Phaſcum ſubulatum.

1312. HYP'NUM. ..... *Capſule* on a fruit-ſtalk, riſing out of a ſcaly bulb at the ſide of the branch.
1306. FONTINA'LIS. .... *Capſule* ſitting; incloſed in a tiled ſcaly bulb.
1307. BUXBAU'MIA. .... *Capſule* on a fruit-ſtalk, membranaceous on one ſide.

ALGÆ. Thongs.

* *Growing on the ground.*

1313. JUNGERMAN'NIA. Flowers with a ſimple empal. of 4 valves. †

† See Retz. ſcand. p. 201.

1315. MAR-

1315. MARCHANT'IA. Flowers on the under ſide of a common target-ſhaped empalement.
1314. TARGIO'NIA. .... Flowers with an empal. of 2 valves.
1318. ANTHO'CEROS. *Flowers* with a tubular Empalement. *Capſule* awl-ſhaped, with 2 valves.
1316. BLA'SIA. ..... *Fruit* cylindrical, tubular.
1315. RIC'CIA. ..... *Fruit* little Grains in the ſubſtance of the leaf.
1319. LI'CHEN. ..... *Fruit* in a ſmooth even ſhining receptacle.
1324. BYS'SUS. ..... *Subſtance* woolly.

** *Growing in water.*

1320. TREMEL'LA. .... *Subſtance* gelatinous.
1322. UL'VA..... *Subſtance* membranaceous.
1321. FU'CUS. ..... *Subſtance* like leather.
1323. CONFER'VA. ..... *Subſtance* like hair.

FUNGI. Funguſſes.

§ 1. *Seeds on the under ſurface.*

—— MERU'LIUS. ..... Pileus with Gills underneath, of the ſame ſubſtance with the reſt of the plant.
1325. AGA'RICUS. ..... Pileus with Gills underneath, of a different ſubſtance from the reſt of the plant.
—— FISTULI'NA. ..... Pileus with ſeparate tubes underneath. Seeds in the tubes.
1326. BOLE'TUS. ..... Pileus with united tubes underneath. Seeds in the tubes.
1327. HYD'NUM. ..... Pileus with ſolid cylinders underneath. Seeds on the cylinders.
1330. HELVEL'LA..... Pileus on a ſtem, ſmooth underneath. Seeds on the under ſurface.

—— AURI-

—— Auricula'ria..... Flat, membranaceous, fixed when young by the whole under ſurface. Seeds on the upper ſurface which becomes reverſed as it attains maturity.

§ 2. *Seeds on the upper ſurface.*

1331. Pezi'za. ..... Cup-ſhaped or concave. Seeds diſcharged by jerks from the upper ſurface only.

—— Ni'dularia..... Leathery; ſitting; bell-ſhaped. Capſules large, flat, fixed to pedicles at the bottom of the bell.

1328. Phal'lus. ..... Stem ſupporting a cellular head. Seeds in the cells.

§ 3. *Seeds on every part of the ſurface.*

1332. Clava'ria. ..... Oblong, upright, club-ſhaped. Seeds emitted from every part of its ſurface.

§ 4. *Seeds in the ſubſtance of the plant.*

—— Tu'ber. ..... Fleſhy, ſolid, not becoming powdery; not opening at the top.

1333. Lycoper'don..... Firm, fleſhy, becoming powdery and fibrous within; opening at the top.

—— Reticula'ria. .... Pulpy, changing to friable; opening indiſcriminately. Seeds lodged in interlacing fibres or membranaceous caſes.

—— Sphæ'ria..... Fruit ſpherical, filled with black powder, moſtly concealed by an outer coat; opening at the top.

—— Tric'hia.

—— TRIC'HIA..... Capſule globular, egg-ſhaped or cylindrical, compoſed of interwoven fibres. Stem fixed to a membranaceous baſe.

1334. MU'COR..... Stem very ſlender. Seeds naked, or in Capſules at the ends of the ſtem.

FI'LICES.

FI'LICES. Ferns.

1284. EQUISE'TUM. Horſetail.

FLOWERS diſpoſed in an egg-ſhaped oblong ſpike.

Individuals roundiſh; opening at the baſe with many valves connected by the top, which is flat and target-ſhaped.—See plate I. fig. A.

ESS. CHAR. *Spike with target-ſhaped fructifications, which conſiſt of many valves, and open at the baſe.* (See p. 11.)

wood EQUISE'TUM *ſylvat'icum*. Stem bearing a ſpike, and compound leaves.—

Hedw. Theoria. 1.—*Bolt. fil.* 33.—*Ger.* 957, *miſprinted* 953. 5, *cop. in C. B. th.* 245.—*Park.* 1201. 5.—*Bolt. fil.* 32, *the fructification.*

The entire *plant* very much reſembling in figure a fir-tree, its leaves being all in whorls. LINN.—*Stem* when the fruit is ripe from 7 to 15 inches high, ſmooth, ſlightly ſcored, pale yellowiſh brown. *Sheaths* of the ſame colour, but deeper. *Leaves* 8, 10, or 15 in a whorl, burſting out from the upper knot of the ſtem. *Fructifications* about 15 in a whorl towards the bottom of the ſpike. *Seeds* with 2, 3, or 4, ſmall threads, which on being breathed upon, coil up on the ſeeds, but in a moment becoming dry they expand again. After ſeveral expanſions and contractions they detach themſelves, ſtill contracting when moiſtened, gradually bending from a ſtraight line into a circle. If a drop of water be puſhed towards them, they contract before it touches them. Theſe contractions are often ſo ſudden as to throw the object out of the field of view. WITH.

Moiſt woods and ſhady places near rivulets, and in boggy ground. P. April, May.

Horſes are fond of it, and in ſome parts of Sweden it is collected to ſerve them as winter food.

β Leaves pointing all one way. Ray. ſyn. 131. 5.—This happens when the ſtem has been trodden down. BOLT. WITH.

In the wood near Chiſſelhurſt. *R. ſyn. ib.*

γ Leaves very long and very ſlender. R. ſyn. 131. 6. WITH.

In ſhady and moiſt ſituations. It is a variety of E. paluſtre. BOLT.—Leaves of a pale yellow green colour. *Ibid.*

I believe this change in the habit occaſionally takes place in both ſpecies, and indeed more or leſs ſo in almoſt every plant in ſimilar ſituations. WITH.

EQUI-

EQUISE'TUM *arven'ſe*. Fertile ſtalk leafleſs. *corn* Barren ſtem leafy.—

Curt. iv. 48, *fertile and barren ſtems.*—*Bolt. fil.* 34.—*Dod.* 73. 2, *repr. in Lob. ic.* i. 795. 2, *and cop. in C. B. th.* 247, *the right hand part of the figure. Fertile plant only repreſented.*—*Blackw.* 217. 3, *and* 4, *fertile plant.*—*Fuchſ.* 323, *cop. in J. B.* iii. 730. 1, *Trag.* 692. 2, *and Lon.* i. 176. 2.—*Matth.* 1027, *cop. in Cam. epit.* 771, *Dod.* 73. 4, *which repr. in Lob. obſ.* 461. 3; *ic.* i. 794. 2, *Ger. em.* 1114. 5, *and cop. in Park.* 1202. 11.—*Fuchſ.* 322, *cop. in J. B.* iii. 729. 2. —*Ger.* 956. 3.

Fertile ſtems appearing before the other; ſoon decaying. *Barren ſtems* continuing a long time. Staehlin obſerved that the *duſt*, when ſhaken out of the ſpike, jumps about as if it was alive. LINN.—*Leaves* often emitting a lateral branch. HALL. ST.—*Fertile ſtalk* with wide looſe ſheaths. *Barren ſtems* rough, ſlender. *Leaves* 12 to 15 in a whorl, ſomewhat branched. LEERS.—*Stalk* from a hand's breadth to a foot high, cylindrical, ſmooth, jointed, the upper knots farther diſtant, the lower approaching nearer to each other; each joint terminating in a ſheath. *Sheaths* furrowed, wider than the ſtalk, with many cleſts; *ſegments* ſpear-ſhaped, tapering to a point. *Spike* yelloviſh white, nearly an inch long, the baſe encircled with a membranaceous yelloviſh border. *Fructifications* in whorls, yelloviſh. *Spike-ſtalk* cylindrical, ſcored, yelloviſh. *Duſt* greeniſh. POLLICH. —*Stem* when freſh roughiſh, in moiſt ſhady ſituations ſmooth and ſomewhat ſhining. *Sheaths* in ſuch ſituations ſcored with green. *Sheaths* with 4 teeth correſponding to the angles of the leaves, of the ſame colour with the leaves. Mr. WOODWARD. ST.—*Leaves*, angles acute, ſides channelled, ſometimes throwing out two branches from the ſame knot. *Root* cylindrical, with threads from the joints, ſtiffiſh, woolly, dark brown. *Stalk* fleſhy, with ſeveral cylindrical tubes within, a central one, with 9 others three or four times ſmaller, diſpoſed in a circle round it; and another 9 exceedingly minute between them and the central one; yelloviſh brown, ſemi-tranſparent, obſcurely marked with 9 ſcores. *Sheaths* ſomewhat bellying, of a ſilvery brown, with 9 furrows; ſegments 9, pointed, ſomewhat approaching. *Stalks*, *ſheaths* furrowed as the ſtem, cloven one third of the way down; teeth blackiſh brown at the ends, with very ſhallow white membranaceous edges. *Leaves*, the joints of the upper branches frequently 3-ſquare, and the joints terminating in 3 teeth; teeth open. ST.—The fertile ſtems not to be diſtinguiſhed from thoſe of the *E. ſylvaticum* before the leaves appear, but by obſerving that the ſheaths in the *E. ſylvaticum* are divided into 12 ſegments, but in this ſpecies only into 3 or 4. BOLT. WITH.

Moiſt corn fields. P. March, April.

β Leaves very long. R. Syn. 131. 8. The open teeth at the joints of the leaves prove it to belong to this ſpecies, though Haller aſſerts it to be a variety of *E. paluſtre*. St. With.—In very wet and cloſe woods, or amongſt tall graſs. Bolt.—Not properly a variety, differing from α merely in luxuriance. St. With.

Sheep and cows will not eat it unleſs compelled by hunger, and then it is hurtful to them. Loeſel ſays if ewes in lamb eat it that abortion is the conſequence.

γ Huds.—Probably only the fertile ſtalks of α. Dill. *in R. ſyn.* 130. *n.* 3. Mr. Woodw. St.—which come up before the barren ones, deſtitute of leaves, variegated with brown colours; ſoon periſhing. Bolt. With.

EQUISE'TUM *paluſtre*. Stem angular. Leaves undivided.— *marſh*

Bolt. fil. 35; *Barren plant* 16. 37.—*Lob. ic.* i. 795. 1. *repr. in Ger. em.* 1114. 4, *and cop. in Park.* 1200. 3.—*Trag.* 694. *cop. in Lon.* i. 176. 3, *and C. B. th.* 247, *left hand ſtem.*—*Garſ.* 258. *B. fructification.*—*Hedwig. Th.* 2. 8. 9. 10.

Stem between angular and furrowed, ſmooth. *Spikes* ſmaller than thoſe of the other ſpecies. *Leaves* 6 to 10, furrowed, ſmooth, with black ſcales at the baſe. Leers, St.— *Stem* ſleek, each joint toothed at the end; teeth blackiſh at the point. Pollich, St.—*Root* black. *Stem* with fewer and deeper ſcores than that of *E. arvenſe*, ſome of the lower joints black, ſometimes lengthened out for a conſiderable way beyond the going off of branches; knots blackiſh from the ſheaths of leaves which riſe from the joints. *Leaves* ſhorter and thicker than thoſe of *E. arvenſe*, with moſtly 5 and rarely 4 or 6 angles. *Sheaths* larger and more lax than thoſe of *E. arvenſe*, teeth very ſhort, tipped with black, which diſtinguiſhes it from the *E. arvenſe*. Mr. Woodw.—*Sheaths* very looſe; both fewer and larger than in *E. limoſum*; margin membranaceous. St.—*Barren leaves* reſemble thoſe of the *E. arvenſe*, but the ſecond leaves in the *E. arvenſe* are 4-ſided, and the ſheathes have 4 teeth, whilſt in this ſpecies they are 5-ſided, and the ſheathes have 5 teeth. Bolt. With.—*Leaves* with 5 to 6 angles. *Sheaths*, teeth egg-ſpear-ſhaped, dark brown, or only dark brown at the end, with a membranaceous white border as deep again as that of *E. limoſum* or *fluviatile*, correſponding in number to the angles. St.

Paddock Pipe in Scotland.

Marſhy and watry places. P. June, July.

β Linn.—Spikes terminating the upper leaves as well as the ſtem. St. Mr. Woodw. With.

Ray

Ray 5. 3, *at p.* 160.

This variety generally ariſes when the primary ſtem has been bitten off. BOLT. WITH.

EQUISE'TUM *fluviat'ile*. Stem ſcored. Leaves generally undivided.— *river*

Bolt. fil. 36; *part of a barren leaf, ib.* 37.—*Matth.* 1026, *cop. in Dod.* 73. 1, *which repr. in Lob. obſ.* 461. 1; *ic.* i. 793, *Ger. em.* 1113. 1, *and cop. in Park.* 1200. 1.—*Ger.* 955. 1, *repr. in C. B. th.* 241.—*Blackw.* 217. 1 *and* 2.—*Cam. epit.* 770. *B. C.*—*Garſ.* 258. A.

Fertile ſtems leafleſs, very thick, from 1 to 1½ foot high. *Seeds* bluiſh. *Barren Stems* from the ſame root, an inch thick; a yard high, ſoft, not furrowed, hollow, with ſmaller tubes round the large one; pale, growing black with age. *Sheaths* cloven into as many pointed teeth as there are leaves. *Leaves* thirty to forty in a whorl, deeply furrowed, 4-cornered, conſiſting of frequent longiſh joints. HALL. —*Barren Stems* whitiſh at firſt. LIGHTF.—Sheaths of the barren ſtems ſurrounded at the top with a well defined blackiſh brown band; *teeth* lighter brown, ſmaller and narrower than thoſe of the fertile ſtems. *Leaves* from 3 to 15 inches long, very cloſely ſet. This ſpecies may be readily known at firſt ſight by its great ſize, numerous leaves, and whitiſh ſtem. Mr. WOODW. ST.

Marſhy and watery places, ſides of rivers, ditches, pools, and lakes. [Not very frequent — cold ſprings — at Barnby near Loweſtoft; between Bungay and Haleſworth, St. Faiths Newton Bogs near Norwich. Mr. WOODWARD.]

P. May, June.

In ſome places they mix it with the food of cows to increaſe the quantity of their milk. Horſes are not fond of it. But the Reindeer, which refuſes hay, will eat it. LINN.

EQUISE'TUM *limo'ſum*. Stem ſometimes naked, ſmooth. *ſmooth*

Bolt. fil. 38.—*Ray* 5. 2, *at p.* 160.—*J. B.* iii. 729. 3.

Cloſely allied to *E. fluviatile:* ſometimes throwing out a few *leaves.* LINN.—A variety of *E. paluſtre.* *Stems* thicker, and taller; thoſe of young flowering plants leafleſs, furrows much more numerous than thoſe of *E. paluſtre;* teeth of the ſheaths finely pointed, brown. HALL. *n.* 1677. β.—It differs alſo as follows: Whole *plant* ſmoother. *Root* yellowiſh. *Stem* brown below, ſcored; not furrowed. *Sheaths* not wider than the ſtem, the teeth of the lower brown, thoſe of the upper black, and ſmaller than thoſe of *E. paluſtre.* *Leaves* either ſtraggling here and there, or in whorls on the middle of the ſtem. *Head* dark

brown, but not ſo dark as in *E. paluſtre*, alſo larger. For the above reaſons I cannot think it a variety of *E. paluſtre*. Mr. Woodw. St.—*Stems* exactly cylindrical, thoſe which bear fructifications after flowering becoming leafy, and ſometimes throwing out lateral branches; thoſe which are barren tapering gradually to the end, and moſtly continuing bare of leaves. The ſhoots of next year upwards of an inch long, from the ſide of the ſtem at the knots, which throw out fibrous roots. St.

Common in the beds of rivers near the banks; alſo ſhallow ponds, and ditches in marſhes. P. May, June.

rough EQUISE'TUM *hyema'le*. Stem naked, rough, ſomewhat branched at the baſe.—

Bolt. fil. 39.—*Cam. epit.* 770. A.—*Ger.* 955. 2, *cop. in Ger. em.* 1113. 2, *and abr. in Park.* 1201. 7. 8, *right hand fig.*

Stem perennial, green, rough like a file. *Sheaths* of the joints pale, black at the baſe and edges, with imperfect teeth. Linn.—*Stems* furrowed with 18 or 20 rough angles, ſome of the joints 3 inches aſunder. *Sheaths* with as many ſhort blunt teeth as the ſtem has furrows. *Spike* terminating. Lightf. 650. St. — Differs from *E. limoſum* in being ſea green, in the greater length of its joints, and in its extreme roughneſs. Mr. Woodward.

Shavegraſs. Pewterwort. Dutch Ruſhes.

Marſhy and watery places, but not common. In a moiſt ditch, near Middleton, Warwickſhire, and in a rivulet near Broad-ſtitch Abbey, Wiltſhire.—Scippon and Craven, Lancaſhire, and in Rigby Woods. Merr.—Gamlingay Bogs, Cambridgeſhire. [River ſide between Meavis Bank and Laſwade near Edinburgh—near Norwich. Dr. J. E. Smith.—Armingdale wood near Norwich. Mr. Crowe.—Juſt below Stone Bier Lin, near Lanerk, Scotland. St.—Sexton Wood, Hedenham, near Bungay. Mr. Stone.] P. July, Aug.

The turners and cabinet makers uſe it to ſmooth their work.—It is wholeſome to horſes, hurtful to cows, and diſagreeable to ſheep.

β Stem with a few leaves. Hall.

Trag. 692. 1, *cop. in Lon.* i. 176. 1, *and J. B.* iii. 729. 1.—*C. B. th.* 248.

γ Huds. — The figures referred to by Pet. are variety α, with which the only ſpecimen that could be referred to it in Buddle's herbarium perfectly accords. Dill. *in R. ſyn.*

On a newly digged bog on Hounſlow Heath. Pet.

δ With numerous lateral branches. St.

Matth. 1028, *cop. in Dod.* 73. 3, *which repr. in Lob. obſ.* 461, 2; *and ic.* i. 794. 1, *and cop. again in C. B.* 250.

When it has been brouſed early in the ſpring, it puts out numerous lateral branches. Mr. Griffith.

1288. OPHIOGLOS'SUM. Adders-tongue.

CAPSULES two rowed, with numerous joints placed transversely, and divided into as many cells as there are joints. When ripe every cell opens transversely.
SEEDS numerous; very small; somewhat egg-shaped.
Ess. CHAR. *Spike jointed; joints pointing 2 ways, opening transversely.* LINN. — *Fructifications of 1 valve, 1 cell, without a ring,* ADANSON, ST. — *opening transversely.* LINN.

OPHIOGLOS'SUM *vulga'tum.* Leaf egg-shaped. *common*
LINN.—Single. HALL.

Sheldr. 28.—*Fl. dan.* 147.—*Fuchs.* 577, *cop. in Lonic.* i. 103. *J. B.* iii. 708. 2, *Trag.* 323.—*Cam. epit.* 364, *cop. in Park.* 506.—*Garf.* 425.—*Tourn.* 325. 1, *the spike.*—*Bolt.* 3.—*Blackw.* 416. 1 *and* 2.—*H. ox.* xiv. 5. *row* 3. 1.—*Barr.* 252. 1.—*Matth.* 594, *cop. in Ger.* 327.—*Dod.* 139. 1, *repr. in Lob. obs.* 471. 1; *ic.* i. 808. 2, *Ger. em.* 404. 1.—*Fructification, Hedwig. Th.* 4. 20. 21. 22. 23.

Spike terminating, greenish yellow. POLLICH, ST.—*Stem* solitary. *Leaf* egg-spear-shaped, embracing the fruit-stalk. *Spike* strap-shaped, at first green, when ripe brown. Mr. WOODW. ST. WITH.—*Leaf* sometimes slightly lobed with small appendages on one or both sides. BOLT.

Adders-tongue.

Moist cold meadows and pastures.—Meadows and sides of rivulets in the North of Yorkshire. CURT. — [Love Lane near Derby. Mr. WHATELEY.—Broadmoore near Birmingham. WITH.—Near Blimhill, Staffordshire. Mr. DICKENSON. — Bedingham near Bungay, Suffolk. Mr. STONE, Mr. WOODW. — Near Meltingham Castle, Suffolk, frequent. Mr. WOODWARD.] P. May, June.

β Fruit-stalk divided at the top, each branch supporting a spike; BOLT. ST.—and the spike itself sometimes dividing into 2 or 3. ST.

Blackw. 416. 3.—*Bolt.* 1. 1.—*Lob. ic.* i. 809. 1, *repr. in Ger. em.* 404. 2, *and cop. in H. ox.* xiv. 5. *row* 3. *f.* 2.—*H. ox. ib. f.* 3, 4, 5, 6.—*Cam. epit.* 364, *cop. in Park.* 506, *the lesser figures.*

1289. OSMUN'DA. Moonwort.

CAPSULES globular, distinct, disposed in a bunch; opening horizontally.

SEEDS numerous; very small; egg-shaped.

ESS. CHAR. *Spike branched. Fructifications globular.*†

* *Fruit-stalks rising from the stem at the base of the leaf.*

common OSMUN'DA *Luna'ria.* Stalk on the stem, solitary. Leaf winged, solitary.—

Blackw. 420.—*Fl. dan.* 18. 1.—*Garid.* 78, *at p.* 346.—*Col. Phyt.* 18.—*Cam. epit.* 643. 1.—*Bolt. fil.* 4.—*Barr.* 252. 3.—*H. ox.* xiv. 5. 1.—*Lon.* i. 77. 1.—*Matth.* 903.—*Ger.* 328. 2, *repr. in Matth. a C. B.* 647. 1.—*Clus.* ii. 118. 2, *repr. in Dod.* 139. 2, *Lob. obs.* 470. 3; *ic.* i. 807. 2, *Ger. em.* 405. 2, *and cop. in Park.* 507.—*Fuchs.* 483, *cop. in J. B.* iii. 710, *and Trag.* 914.

Within the base of the *stem*, early in the spring, may be found a complete rudiment of the next year's plant. LINN.—*Wings* of the leaf fleshy, crescent-shaped, semi-circular, and halberd-shaped. It so exactly resembles *Ophioglossum vulgatum* in habit and structure, that they ought by no means to be separated. Mr. WOODW. ST.

Moonwort.

Mountainous meadows and pastures in Westmoreland; near Settle, Yorkshire; Scadbury Park, Kent; and Chisselhurst Common. —Mear Bank, by Sykes Wood, Ingleton, Yorkshire. CURT.—North side of Breedon Hill, Worcestershire. NATH.—[Near Bury. Mr. WOODW.— Stratton Heath, Norfolk. Mr. CROWE.—On Coal Pit banks near Stourbridge. Mr. WALDRON HILL.] P. May—July.

β LINN.—Leaves and stalks several. CAM.

Cam. epit. 644.—*Matth. a C. B.* 647. 2.

Found in England. CAM. *ib.*

Leaves in pairs, doubly winged, wings cut. WILLD. *n.* 875.

γ LINN.

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† OBS. *Osmunda Struthiopteris, Spicant,* and I believe *crispa,* do not belong to this genus; but *virginica, regalis,* and *cinnamomeus* correspond in structure with *O. Lunaria.* These latter, with the genus *Ophioglossum,* and perhaps *Onoclea,* which I have never seen in fructification, form a natural family of the tribe of FILICES, distinguishable by the want of the annular elastic ring, which is common to *Osmunda Struthiopteris,* and *Spicant,* and to all the *Ferns properly so called,* and which unites them and the genera *Acrostichum, Polypodium, Hemionitis, Asplenium, Blechnum, Lonchitis, Pteris, Adiantum,* and *Trichomanes* into another distinct natural assemblage. ST.

γ Linn.—*Breyn. cent.* 93; *cop. in H. ox.* xiv. 5. *row* 2. 3.—*Fl. dan.* 18. 3.

Osmunda Lunaria β Hudſ. Bolt. p. 5.

Weſtmoreland, and the Northern counties. *R. ſyn.*

** *The Leaf itſelf bearing the Fructifications.*

OSMUN'DA *rega'lis.* Leaf doubly winged; with *royal* bunches at the end.—

Pluk. 181. 4.—*Trag.* 543.—*Blackw.* 324.—*Tourn.* 324, *flowering part.*—*Fl. dan.* 217.—*Bolt.* 5.—*J. B.* iii. 736.—*Dod.* 463, *cop. in Lob. obſ.* 474. 1 *and* 2; *ic.* i. 813, *Ger. em.* 1131; *and co. in Park.* 1038, *Ger.* 971; *and imit. in H. ox.* xiv. 4. *row* 3. 1.—*Garſ.* 273.—*R. ſyn. ed.* i. 1. 2. *at p.* 1, *in its youngeſt ſtage of growth.*

Leaſits the lateral ribs proceeding from the mid-rib; forked, parallel. *Fructifications* on the upper part of the central leaves. Lightf. St. With.

Oſmund Royal. Flowering Fern.

Watery places and boggy marſhes. [About Coſgarne and Marazion in the mouths of old mines. Mr. Watt.—Bogs near Yarmouth. Mr. Woodw.—St. Faiths Newton Bogs near Norwich. Mr. Crowe.] July, Aug.

Impreſſions of the leaves are frequent in the nodules of ironſtone found in the Coalbrook Dale iron works. It is the only ſpecies of an indigenous vegetable which I have ever ſeen in a foſſil ſtate. But it is a native of Virginia alſo. St. — All the other impreſſions of Filices, which I have ſeen on ironſtone, ſeem to be thoſe of American plants. With.

The root boiled in water is very ſlimy, and is uſed in the North to ſtiffen linen inſtead of ſtarch.

*** *Leaves, ſome leafy, others bearing fructifications.*

OSMUN'DA *Spi'cant.* Leaves ſpear-ſhaped, with *rough* winged clefts. Very entire, parallel, running into each other.—

Acrostichum *Spicant*, which ſee.

OSMUN'DA *criſ'pa.* Leaves more than doubly *ſtone* compound; leaſits alternate, roundiſh, cut.—

Pteris *criſpa*, which ſee.

1290. ACRO'STICHUM. Ruſtyback.

FRUCTIFICATIONS entirely covering the under ſurface of the leaf.

ESS. CHAR. *Fructifications covering the whole diſk of the leaf.*

* *Leaf ſimply divided.*

forked ACRO'STICHUM *ſeptentriona'le.* Leaves naked, ſtrap-ſhaped, jagged.—

Fl. dan. 60, *but from an indifferent ſpecimen.—Lob. adv.* 17. 2, *repr. in ic.* i. 47. 1, *and Ger. em.* 1561. 8.—*Bolt. fil.* 8, *from a garden ſpecimen.—Trag.* 537, *cop. in Lon.* i. 224. 5.—*Ger.* 343. 4.—*Park.* 1045. 8.—*J. B.* iii. 755. 2.

Fructifications, whilſt immature, in ſhort indiſtinct lines or dots. It is therefore, whilſt young, an ASPLENIUM. BOLT. p. 7 and 12.

Clefts of rocks and old walls. Rocks in Edinburgh Park. *R. ſyn.* ST.—Tops of mountains in Wales, on Ingleborough, Yorkſhire, and above Ambleſide, Weſtmoreland. P.

** *Leaves with winged clefts.*

Spleenwort ACRO'STICHUM *Spi'cant.* Leaves ſpear-ſhaped, with winged clefts. Segments very entire, parallel, confluent at the baſe. LINN.—Fertile leaves winged; barren leaves with winged clefts. WITH.—

Hedw. Theor. 5, *the fertile and barren leaf, with the parts of fructification diſſected and magnified.—Curt.* ii. 22.—*Fl. dan.* 99.—*Trag.* 550, *cop. in Lon.* i. 225. 1.—*Cluſ.* ii. 213. 1, *repr. in Dod.* 469. 1, *Lob. obſ.* 475. 2; *ic.* i. 815. 2, *Ger. em.* 1140. 2; *cop. in Park.* 1042. 2, *and abr. in. H. ox.* xiv. 2. 23.—*Ger.* 978. 2.—*Bolt.* 6.—*J. B.* iii. 745. 2, *and* 1 *perhaps.—Cam. epit.* 665.—*Giſ.* 49.—*Matth.* 923, *leaves repreſented as hairy.*

Flowering leaves much narrower than the barren ones. LINN.—*Leaves* ſimilar to thoſe of *Polypodium vulgare*, but ſlenderer; *wings* oblong, bowed upwards, the middlemoſt ones the largeſt. *Flowering leaves* longer, harder, and brown. *Fructifications* diſpoſed on the under ſide of the leaf in 2 lines, parallel to the edges of the wings, but when ripe covering the whole under ſurface. Allied to *Pteris aquilina*, in the diſpoſition of the fructifications. HALL. *enum. and hiſt.* ST.—*Fructifications* covered at firſt with a thin membrane. *Capſule* 2 valves, connected by an annular elaſtic cord of 1 cell, and containing many minute ſeeds. HEDWIG.—*Barren Leaves*, ſegments wideſt at the baſe, ſtrap-ſpear-ſhaped, the lateral ribs forked, ſometimes,

times, though rarely, terminating in minute ſcollops. *Fertile Leaves*, ſegments not half ſo broad as thoſe of the barren ones, ſeparate, though the confluence may almoſt always be traced, and towards the end of the leaf gives a waved appearance to the mid-rib. Mr. Woodw.—*Oſmunda Spicant.* Linn. but it differs totally in ſtructure from *Oſmunda Lunaria*, *O. regalis*, &c. *Struthiopteris* of Haller, and ſeveral other authors; but its claims to form a new Genus are ill founded. St.

Rough Spleenwort.

Groves and moiſt heaths. [St. Faiths Newton Woods, near Norwich.—Commons in Hertfordſhire. In the North frequent. Mr. Woodw.—At Hainford, Norfolk. Mr. Crowe.]

P. July—Sept.

β Leaves forked. St.

ACRO'STICHUM *ilven'ſe.* Leaves almoſt doubly winged, leafits oppoſite, united, blunt, hairy underneath, very entire at the baſe.— *hairy*

Polypodium *ilvenſe*, which ſee.

1291. PTE'RIS. Brakes.

Fructifications diſpoſed in a line, along the edge of the leaf, on the under ſide.

Ess. Char. *Fructifications in lines along the edge.*

PTE'RIS *criſ'pa*, Leaves more than doubly compound; wings egg-oblong, ſerrated, blunt; the fertile ones very entire. Linn. *ſp. pl.*—Leaves more than doubly compound; wings alternate, roundiſh, cut. Linn.* *ſtone*

Bolt. 7.—*Fl. dan.* 496.—*H. ox.* xiv. 4. 4, *and* 27.—*Pluk.* 3. 2 *and* 3.—*J. B.* iii. 743.—*H. ox.* xiv. 5. 25, *is ſaid by Linnæus to be the ſame plant in a ſtate advancing to maturity.*

Barren Leaves doubly winged, ſmooth, wings elliptical ſerrated, except at the baſe; the *fertile ones* narrower, very entire, rolled back as in *Pteris*, but the diſk bearing fruit as in the *Acroſtichums.* Linn.—A plant forming the connecting link between the laſt of the *Oſmunda's* and the *Acroſtichums.* Linn.—*Leaf-ſtalks* waved, green. *Fructifications* in lines along the under margin of the wings, which is rolled back upon

* Pteris heterophylla. Linn. Sp. pl. is directed in the Mantiſſa, 505. to be referred to this ſpecies, but it is a very different plant.—See Oſmunda criſpa.

upon them, as in *Pteris aquilina;* after the diſcharge of the ſeeds increaſing in breadth, ſo as to cover the whole diſk, except the mid-rib. BOLT. p. viii. ST. WITH.—*Leaf-ſtalks* ſometimes 6 or 7 inches long. *Leaf* about 3 inches long. Mr. WOODW.—If before the fructifications are ripe, the reflected ſides of a wing are bent back, no fructifications will appear to view, but if the very margin which will be found alſo to be reflected be alſo bent back, the fructifications will be expoſed to view diſpoſed along the margin of the wing, as in the reſt of the genus Pteris. ST.

Stone Fern. Criſped Fern. Parſley Fern.

On ſtones and rocks in Yorkſhire. Weſtmoreland and Wales frequent.—Rocks about Buckbarrow Well, Longſledale, and here and there on the walls between that place and Kendal. CURT.—[Rocky banks and ſides of roads, Cumberland. ST.—On heaths and old walls in the Northern counties abundantly. Mr. WOODW.—Cader Idris. Fructifications ripe in September. Mr. GRIFFITH.]

common PTE'RIS *aquili'na.* Leaves more than doubly compound. Leafits winged. Wings ſpear-ſhaped; the lowermoſt with winged clefts; the upper ones ſmaller.—

Ger. 969. 2.—*Bull.* 207.—*Bolt.* 10.—*Fuchſ.* 596, *miſprinted* 569, *cop. in Dod.* 462. 2, *and imit. in Trag.* 542.—*Matth.* 1291.—*Garſ.* 272.—*Lob. obſ.* 473. 2, *repr. in ic.* i. 812. 2, *Ger. em.* 1128. 2, *and cop. in Park.* 1037, *miſprinted* 1039.—*H. ox.* xiv. 4. 3.—*Cam. epit.* 992.

The *Root* cut obliquely preſents a kind of repreſentation of the Imperial Eagle. LINN.—Whence Linnæus has named it the P. aquilina or eagle brakes.

Female Fern.

Heaths and woods. P. Aug.

The root dried, powdered, and given in doſes of 3 or 4 drams, is a ſecret to kill the tape-worm. A tolerably pure alkaly is obtained from the aſhes. The common people in many parts of England mix the aſhes with water and form them into balls; theſe balls are afterwards made hot in the fire, and then uſed to make lye for ſcouring linen.—It makes a very durable thatch; and is an excellent litter for horſes and cows. Where coal is ſcarce, they uſe it to heat ovens and to burn limeſtone; for it affords a very violent heat. In the more inhoſpitable climates, bread is made of the roots. The Fern Moth feeds upon it.

β HUDS.—*Pluk.* 182. 1.—*Blackw.* 325.

Rocks on the weſtern coaſt, and on walls at Weſtminſter and Grays Inn. On being cultivated in the Chelſea garden, it turned out the ſecond year to be variety α. DILL. *in. R. ſyn.*

1295. ASPLE'NIUM. Spleenwort.

FRUCTIFICATIONS diſpoſed in ſtraight lines on the under ſurface of the leaf.

Ess. CHAR. *Fructifications ſcattered in lines on the ſurface of the leaf.*

* *Leaf ſimple.*

ASPLE'NIUM *ſcolopen'drium.* Leaves undivided, heart-tongue-ſhaped; very entire. Stalks hairy.— *Harts-tongue*

Curt. i. 1.—*Tourn.* 319.—*Blackw.* 138.—*Bull.* 167.—*Bolt.* 11.—*Ger. &c.*—*Garſ.* 346.—*Trag.* 549.—*Fuchſ.* 294, *cop. in J. B.* iii. 756, *and imit. in Cluſ.* ii. 213. 2, *which repr. in Dod.* 467. 1.—*Cam. epit.* 579.—*Walc.*—*Lob. obſ.* 468. 3, *repr. in Ger. em.* 1138. 1, *and cop. in Park.* 1046. 1. *f.* 2, *and H. ox.* xiv. 1. 1. —*Lon.* i. 224. 3.—*Matth.* 831.

Harts-tongue.

Moiſt ſhady rocks, mouths of wells, old walls, and in the fiſſures of rocks on the tops of moſt of the high mountains in Yorkſhire. CURT. P. Aug. Sept.

β LINN.—Leaves curled at the edge. ST.

J. B. iii. 757. 3.

[Near a petrifying ſpring by the ſide of a rivulet at the bottom of Garn Dingle, three miles from Denbigh. Mr. GRIFFITH.]

ε LINN.—Leaves with many clefts at the end. ST.

Cluſ. ii. 213. 3, *repr. in Dod.* 467. 2, *Lob. obſ.* 469. 1; *ic.* ii. 805. 2, *Ger. em.* 1138. 2, *cop. in Park.* 1047. 1, *J. B.* iii. 757. 2, *and H. ox.* xiv. 1. *row* 1. 2, *and imit. in Ger.* 976. 2.

Phyllitis multifida. R. ſyn. 117.

In a lane near Swaneling, not many miles from Southampton. *Ger. em.*

γ Leaves with many clefts at the edges.

Tourn. 451.

Phyllitis polyſchides, &c. R. ſyn. 117.

In woods. BOBART in R. ſyn. 117.

** *Leaf with winged clefts.*

ASPLE'NIUM *Ce'terach.* Leaves with winged clefts; lobes alternate, running into one another; blunt.— *common*

Bull. 333.—*Walc.*—*Garſ.* 212.—*Barr.* 1052, 1051, 1043, 1044. —*Tourn.* 318.—*Trag.* 551.—*Dod.* 468, *repr. in Lob. obſ.* 470. 1; *ic.* i. 807. 1, *Ger. em.* 1140. 1, *and cop. in Park.* 1046. *f.* 1, *Ger.*

Ger. 978. 1, *Matth. a. C. B.* 646. 1, *and H. ox.* xiv. 2. *row* 3. *f.* 4.—*Balckw.* 216.—*J. B.* iii. 749.—*Bolt.* 12.—*Matth.* 899.—*Cam. epit.* 640.

Leaves ſo covered underneath with ſcales as to conceal the fructifications. LINN.—*Leaves* many from a root, 3 to 6 inches long, the hollows between the lobes of the ſame ſize and ſhape as the lobes, edges ſomewhat bent back when the fructifications ripe. Mr. WOODW.

Old walls and clefts of moiſt rocks. About Briſtol plentifully. [At Bury, at Aſheridge, Hertfordſhire. Northern counties frequent. Mr. WOODWARD.—Heydon, Norfolk, Mr. BRYANT.]

*** *Leaves winged.*

Maidenhair ASPLE'NIUM *Tricho'manes.* Leaves winged. Wings nearly circular, ſcolloped.—

Walc.—*Bolt.* 13.—*Bull.* 185.—*Tourn.* 315. A. D. E.—*Fl. dan.* 119.—*Blackw.* 370.—*Garſ.* 128. B.—*Trag.* 530. 1, *cop. in Lonic.* i. 212. 1.—*Cam. epit.* 925, *cop. in Park.* 1051.—*Matth.* 1202.—*Dod.* 471. 1, *repr. in Lob. obſ.* 471. 2; *ic.* i. 809. 2, *Ger. em.* 1046, *and improved in H. ox.* xiv. 3. *row* 1. 10.—*Fuchſ.* 796.—*Ger.* 985.—*Hedwig. Th.* 7. 37, *a leaſt magnified.*

Roots black, fibrous. *Leaf-ſtalks* gloſſy, black. *Flowers* in 3 to 5 lines.

Spleenwort. Miltwaſte.

Common Maidenhair.

Old walls, rocks, and ſhady ſtony places. P. May—Oct.

β HUDS.—*A. viride* γ which ſee.

γ Wings lobed and cut. BOLT.—*Bolt.* 2. 2.

green-ribbed ASPLE'NIUM *vir'ide* Leaves winged. Wings nearly circular, ſcolloped, lopped at the baſe. HUDS.

Bolt. 14, *excellent, but Mr. Woodward thinks the ſcollops of the leaves not large nor deep enough.*

Leaf-ſtalk of a pale green, ſometimes browniſh towards the root, and in ſome ſpecimens brown and gloſſy as in *A. Trichomanes. Wings* rhomboidal, fixed to the leaf-ſtalk by one of the corners, the upper and lower ſides of the baſe very entire, the other two ſcolloped. BOLT.—*Wings* more lopped at the baſe than in *A. Trichomanes. Leaf-ſtalk* green, which ſeems to be the only certain character by which it is diſtinguiſhable from *A. Trichomanes.* Mr. WOOD.—*Wings* not ſo circular as thoſe of *A. Trichomanes*, the lower ſide of the baſe being lopped, much more deeply ſcolloped, thinner. Mr. WOODWARD.

A. Trichomanes γ Linn.

Moiſt rocks on the mountains of Wales, Yorkſhire, and Weſtmoreland. [On an old wall at Black Bank near Leeds. Mr. WOOD.—On Ingleborough, BOLT.—near the ſummit, and in Borowdale. Mr. WOODWARD.] P. June—Sept.

β HUDS.

β Huds.—Wings lobed and cut. St.

H. ox. xiv. 3. 13. — *Pluk.* 73. 6. — *Tourn.* 315. C. F. — *Ger.* 975.

Scotland. Bobart *in H. ox.*—Jerſey. Pluk.

γ Leaf branched. Bolt.

Bolt. 2. 3.—*H. ox.* xiv. 3. 11.—*Ger.* 985. 2, *cop. in J. B.* iii. 755. 1.

A. Trichomanes ramoſum. Linn.—*A. Trichomanes* β (Huds.)

On all the high rocks of Caernarvonſhire, a ſtone wall in a garden at Maidſtone, Kent, and on limeſtone rocks in Craven, Yorkſhire.—On the rocks below Ogden Kirk on the oppoſite ſide of the Clough. Bolt.

ASPLE'NIUM *mari'num.* Leaf winged. Wings inverſely egg-ſhaped; ſerrated; hunched and blunt on the upper edges, and wedge-ſhaped at the baſe.— *Sea*

Pet. gaz. 91. 1.—*Bolt.* 15.—*H. ox.* xiv. 3. 25.—*Pluk.* 253. 5.—*Walc.*—*Lob. obſ.* 474. 3, *repr. in ic.* i. 814, *Ger. em.* 1143. 4; *and cop. in Park.* 1045. 7.

Leaves ſpear-ſhaped, dark green above, paler underneath. Bolt. Mr. Woodward.—*Stalks* reddiſh brown. *Wings* in ſome ſpecimens ſpear-ſhaped, acutely ſcolloped, the ſcollops equal in number to the lines of fructification, lobed at the baſe on the upper ſide. Mr. Woodward.

On rocks generally on the ſea ſhore,—about Preſtholm iſland near Beaumaris, at Llandwyn in Angleſea, about the caſtle of Haſtings, Suſſex, and in Devonſhire, Cornwall, and Cumberland.—In a ſtone quarry cloſe to the road from Warrington to Winwick, Lancaſhire. Bolt. P. June—Sept.

β Bolt.—Wings deeply cut.

Sibbald Scot. ill. t. 3. *f.* 1. 2.—*confeſſedly cop. in Bolt.* 2. 4, *but not an exact copy—I have not ſeen the plant.* Bolt.

Plants correſponding to Sibbald's figures we found in the Coves at Weems in Scotland. Lightfoot.

Adiantum trapeziforme, Huds. which ſee.

**** *Leaves doubly compound.*

ASPLE'NIUM *Ru'ta mura'ria.* Leaves doubly compound, diviſions alternate. Leafits wedge-ſhaped, finely ſcolloped.— *Wall-Rue*

Sheldr. 68.—*Bull.* 195.—*Walc.*—*Cam. epit.* 785.—*Fl. dan.* 190.—*Tourn.* 317. 1.—*Bolt.* 16.—*Blackw.* 219.—*Garſ.* 128. *a.*—*Fuchſ.* 730, *cop. in J. B.* iii. 753, *Lon.* i. 221. 1 *and* 2.—*Trag.* 530. 2.—*Dod.* 470, *repr. in Lob. obſ.* 472. 1; *ic.* i. 811. 1, *Ger. em.*

em. 1144. 3, *and cop. in Park.* 1050. 4, *and H. ox.* xiv. 5. 22. —*Ger.* 983.—*Matth.* 1041.

Stem bare for near half its length. *Fructifications* in 2 or 3 rows, on each ſide of the rib of the leaf. BOLT.

White Maidenhair. Wall Rue. Tentwort.

Old walls and moiſt crevices of rocks. [Southwold Church, Suffolk, Long Stratton Church, Norfolk. Mr. STONE, Mr. WOODWARD.]

P. June—Oct.

black ASPLE'NIUM *Adian'tum ni'grum.* Leaves almoſt triply winged. Leafits alternate. Wings ſpear-ſhaped, between cut and ſerrated. LINN.—Leaves triangularly ſpear-ſhaped. Wings egg-ſhaped. HUDS.

Fl. dan. 250.—*Garſ.* 126.—*Blackw.* 220.—*Bolt.* 17. 1 *and* 3.—*Dod.* 466. *repr. in Ger. em.* 1137.—*Ger.* 975. 1.—*H. ox.* xiv. 4. 16.—*Lob. ic.* i. 810. 2, *cop. in. Park.* 1049. 2.

Seeds ſaffron coloured. LINN.—*Lobes*, the extreme ſerratures ſo acute as almoſt to appear fringed. Mr. WOODW.—*Stalks* black, gloſſy. *Fructifications* 3 to 7 on each wing.

Black Maidenhair. Oak Fern.

Shady places and old walls. P. April—Oct.

β HUDS.—*Pluk.* 282. 3.

Wings long, divided into very fine and longiſh ſegments. SHERARD *in R. ſyn.*—*Wings* with hair-like ſegments. PLUK.—*Fructifications*, none diſcovered. Poſſibly a variety of *A. Adiantum nigrum* owing to a very ſhady ſituation, but if a variety it is a very extraordinary and beautiful one. DILL.

Filix non ramoſa, &c. Pluk. alm. p. 150. par. the laſt but one, as corrected according to mant. p. 78. par. 4.

Mountains of Mourn in the county of Down, Ireland. *R. ſyn.*

γ HUDS. ſeems to be only a young plant of *A. Adiantum nigrum.* DILL.—*Filix pumila petræa, &c.* Pluk. amalth. p. 91. (ST.)

Hilly parts of Suſſex. *Dill. in R. ſyn.*

δ BOLT.—*Aſplenium lanceolatum* of Hudſon, which ſee.

ſpear ASPLE'NIUM *lanceola'tum.* Leaves doubly winged, ſpear-ſhaped. Leafits alternate. Wings inverſely egg-ſhaped, cut and ſcolloped. HUDS.

Bolt. 17. 2,* *conjectured by Mr. B. to be the plant, and accords with Mr. Hudſon's character.*

Filix

* Differs very little from *A. Adiantum nigrum.* Wings not near ſo circular as in my ſpecimens. MR. WOODWARD.

Filix elegans, &c. R. syn. 127, referred to by Mr. Hudson with a mark of doubt, appears to me to be a variety of *A. Adiantum nigrum*. Mr. Woodw.—(*A. Trichomanes ramosum* of Linn. referred to by Mr. Hudson, cannot be the plant, if we are to depend on Linnæus's reference to *Trichomanes ramosum*. *J. B. hist.* iii. *p.* 755.) St.

On old walls and rocks about St. Ives, and other places in Cornwall. Huds.—On an old wall in the village of Wharf, Yorkshire. Bolt.

P. May—Sept.

1296. POLYPO'DIUM. Polypody.

Fructifications disposed in distinct circular dots on the under surface of the leaf.

Ess. Char. *Fructifications in roundish dots scattered over the surface of the leaf.*

* *Leaves with winged clefts. Lobes united.*

POLYPO'DIUM *vulga're*. Leaves with winged clefts; wings oblong; somewhat serrated; blunt. Root scaly.— *common*

Ludw. 18.—*Curt.* i. 12.—*Bolt.* 18.—*Bull.* 191.—*Blackw.* 215.—*Tourn.* 316.—*Walc.*—*Garf.* 466.—*Fuchf.* 588, *cop. in Trag.* 540, *and Dod.* 464. 2, *which repr. in Ger. em.* 1132. 2.—*Tourn.* 316.—*Ger.* 972.—*Matth.* 1293.—*Dod.* 464. 1, *repr. in Lob. obf.* 475. 1; *ic.* i. 814. 2, *Ger. em.* 1132. 1, *and cop. in Park.* 1039, 1, *and H. ox.* xiv. 2. *row* 1. 1.—*Ger.* 974. 1.—*Cam. epit.* 993.—*Lon.* i. 224. 1.

Leaves finely serrated at the edge. St. With.—*Fructifications* yellowish brown, in rows, parallel to the rib of the wings. With.

On old walls; shady places; and at the roots of trees.

P. June—Oct.

The root is sweetish: by long boiling it becomes bitter. When fresh it is a gentle purgative. An infusion of six drams of it in half a pint of boiling water may be taken at twice.

β Huds.—Wings doubly serrated.—*Barr.* 38.

Walls of Windsor Castle. *R. syn.*—[Worcestershire. St.]

γ Wings lobed. Bolt.

Bolt. 2. 5. *b. a portion of a leaf.*

In a wood near Bingley, Yorkshire. Mr. Alexander.

δ Wings with winged clefts. St.

Variety γ of Lightf. and Huds.

H. ox. xiv. 2. 8.—*Pluk.* 30. 1.—*Bolt.* 2. 5. *(a) a portion of the leaf.*

In

In this ſtate it never produces fructifications. The ſame is obſervable of the waved variety of *Aſplenium Scolopendrium.* LIGHTF.

On a rock in a wood near Dennys Powys Caſtle, not far from Cardiff, Glamorganſhire. *R. ſyn.* P. June—Oct.

jagged POLYPO'DIUM *ca'mbricum.* Leaves with winged clefts. Wings ſpear-ſhaped, ragged with winged clefts, ſerrated.—

P. Vulgare γ which ſee.

** *Leaf winged.*

Spleenwort POLYPO'DIUM *Lonchi'tis.* Leaves winged. Wings creſcent-ſhaped, declining, with fringe-like ſerratures. Leaf-ſtalks with chaffy ſcales.—

Fl. dan. 497.—*Tourn.* 314.—*Bolt.* 19.—*Matth.* 922, *cop. in Ger.* 979, *and Ger. em.* 1140. 3.—*Pluk.* 89. 6.—*H. ox.* xiv. 2. *row* 3. 1.—*Cam. epit.* 664. *cop. in Park.* 1042. 1, *and J. B.* iii. 744.—*Lon.* ii. 34. 1.

Rough, and of a harder texture than the other Ferns. HALL.—This plant and *P. aculeatum* bear ſo ſtriking a reſemblance to each other in figure, colour, ſubſtance, manner of growth, and general habit, that I have been ſometimes tempted to aſk whether it be poſſible that *P. Lonchitis* might be a variety of *P. aculeatum.* BOLT. ST.—*Leaves* in circles round the crown of the root, which is rough with the remains of decayed leaf-ſtalks, keeled, from the wings being bent upwards on each ſide the leaf-ſtalk. *Wings* ſo cloſely placed as to be tiled, the lower edge covering the upper edge of the next beneath, ſerratures frequently but irregularly terminating in ſhort ſpine-like teeth, furrowed underneath with veins, the margin of the upper half of the baſe of each wing parallel to the general leaf-ſtalk. *Leaf-ſtalk* furrowed above. *Fructifications* diſpoſed in 2 parallel lines on each wing, with 5 or 6 dots forming 2 lines on the lobe. Mr. WOODW. ST.—*Wings,* the lowermoſt frequently diſtinct, ſhorter, and broader, the lower half nearly equal to the upper, and ſometimes almoſt forming a lobe; doubly ſerrated, the larger ſerratures tapering to a ſharp point, the intermediate ones from 1 to 2, bluntiſh. ST.—Cultivation however does not change the appearance of *P. Lonchitis.* ST.—*Fructifications* 12 pair or more.

Royal Polypody. Great Spleenwort.

Clefts of rocks. On the higheſt mountains of Caernarvonſhire; on Snowdon; on Glydar near Llanberris, and at the foot of the rocks among the Highland mountains. P. May to Sept.

*** *Leaves*

**** Leaves moſtly doubly winged; their wings being confluent at the baſe, ſo that they are rather half winged than really doubly winged.*

POLYPO'DIUM *fonta'num.* Leaves winged, ſpear-ſhaped. Leafits roundiſh, finely cut. Stem ſmooth. — *rock*

Fluk. 89. 3.—*Lob. adv.* 361. 2, *repr. in ic.* i. 810. 1.—*Bolt.* 21, *mid-rib well expreſſed.*—*Barr.* 432. 1.—*Fluk.* 89. 2 *and* 3.*—*Ger.* 980. 2.—*The above is given from an examination of a fine ſpecimen gathered by Mr. Dickenſon, at St. Baume, in Provence.*

Leaves almoſt doubly winged. Its habit that of *P. fragilis*, but the leafits cloſer together, and not ſo deeply ſubdivided. *Fructifications* in larger dots, and proceeding not from a roundiſh ſcale, but from an oblong white narrow valve or chink. LINN. — *Stem* green, naked for about an inch from the root. BOLT. — *Plant* 3 or 4 inches high. *Wings* alternate, 3 or 4 lines long, either winged or wing-cleft. *Leafits* deeply cut into 2 or 3 pointed lobes. Mr. WOODW.—*Second Leaves* diſtinct, but not remote, ſo deeply divided, that if their mid-rib is compared with the general mid-rib, the whole leaf may be conſidered as doubly winged. ST.

Old walls and rocks above Hammerſham Church, and in rocky places near Wybourn, Weſtmoreland.—Alſo in Buckinghamſhire. BOLT. P. June—Sept.

POLYPO'DIUM *ilven'ſe.* Leaves almoſt doubly winged; Leafits oppoſite; united; blunt; hairy underneath; very entire at the baſe. LINN.—Stem hairy. WITH. *hairy*

Bolt. 9.—*(Fl. dan.* 391, *is referred to by Linn. but omitted, and I think properly, by Mr. Hudſon.—J. B.* iii. 748. 1, *cop. in Park.* 1039. 3, *is deſcribed as being* 12 *inches long.)*

Scarcely more than a finger's length. *Stalk* greeniſh, not blackiſh purple. Nearly allied to the Polypodies in its fructifications being diſpoſed in dots, but theſe are very much crowded. LINN. —*Leaves* ſpear-ſhaped. *Leafits* remote below, above near together, between wing-cleft and cut, ſegments oblong-roundiſh, very entire, with whitiſh ſcattered hairs on both ſides, chiefly towards the edges. *Dots* ſurrounded with whitiſh hairs, ſpreading over the dot in various directions. ST.—*Stem* hairy. *Leafits*, from 7 to 15 pair; lobes 5 or 6 pair. BOLT. WITH.

Acroſtichum ilvenſe. Syſt. pl. Polypodium fronde duplicato pinnata, &c. *Fl. Suec.* 850. 938.

Clefts of rocks. Near the top of Clogwyn y Garnedh, facing N. W. directly above the lower lake. R. *ſyn.* HUDS. [in company with Mr. DAVIES.] P. July—Sept.

* *Which laſt not ſo good.* MR. WOODWARD.

alpine POLYPO'DIUM *alpi'num.* Leaves almoſt doubly winged. Leafits diſtant, heart-ſhaped. Segments ſcolloped at the edge; woolly underneath. Stem ſmooth. WITH.

Pluk. 89. 5.—*H. ox.* xiv. 3. 23.—*Bolt.* 42.—*Pluk.* 179. 4.—*Barr. ic.* 432. 2.

Doubly winged. Leafits blunt, diſtant, woolly underneath. Fl. Lapp. 383. *Leafits* 6 or 7 pair; lobes 2 pair; terminated by an odd one. BOLT.

Acroſtichum alpinum. BOLT. 76.

On Alpine Hills, but rare. LINN.—High mountains, Scotland and Wales. BOLT.

wood POLYPO'DIUM *Phego'pteris.* Leaves almoſt doubly winged; the lowermoſt leafits bent back; each pair united by a four-cornered little wing.—

Bolt. 20.*—*H. ox.* xiv. 4. 17. *f.* 3, *the quadrangular wing not expreſſed.—(Fl. dan.* 497, *is P. Lonchitis.)*

Leafits ſpear-ſhaped, with winged clefts. LINN.—When the Leafits alternate, the quadrangular wing is leſs obvious. ST.—*Leafits, rib,* and often the whole leaf and edges hairy. HALL. ST.—*Lobes,* the lowermoſt pair ſhorter than thoſe above. ST. BOLT.—*Plant* ſometimes 19, and ſtalk 12 inches high. Leafits, the lowermoſt pair not confluent as all the reſt, and placed one and a half inch from the pair above it; in a vigorous plant bent almoſt back to back, in conſequence of which, when dried and gummed on paper, they form an acute angle with the ſtalk, and might lead thoſe who had not ſeen the plant growing, to ſuppoſe they grew in the ſame place with the reſt. *Lobes* ſemi-elliptical. Mr. WOODWARD.

Clefts of rocks in moiſt and ſhady places and woods, in Yorkſhire, Weſtmoreland, Devonſhire, and the Lowlands of Scotland. [Barrowfield Wood near Kendal, by the fall of Lodore near Derwent Water, and in ſeveral woods in the North. Mr. WOODW.—Woods in the Highlands and Lowlands. Weſtmoreland. ST.]

P. June—Oct.

creſted POLYPO'DIUM *criſta'tum.* Leaves almoſt doubly winged. Leafits egg-oblong. Wings bluntiſh, ſharply ſerrated towards the end.—

Mull.

* The lowermoſt pair of leafits touch the pair above, and their bending back to back not expreſſed. Mr. WOODW. ST.

Mull. 2. 4, *almoſt trebly winged*, 2. 2?* *wings not quite ſo deeply divided. The points of the ſerratures not ſufficiently fine.*—*Pluk.* 181. 2.—*Pluk.* 180. 5, *in its middle ſtate of growth.*—*Bolt.* 23, *ſerratures repreſented as ending in hairs.*—*Fl. dan.* 707, *is a tolerable repreſentation of the upper part of a large plant, but the points of the ſerratures too long.*—*Mapp.*

Fructifications on the upper but not on the lower leafits; LINN.—but with us on all the leafits, when the plant is come to maturity. LIGHTF. Mr. DICKENSON.—*Leaf*, when the plant arrives at maturity, trebly winged. Mr. DICKENSON.—*Lobes* hooked. *Serratures* pointing inwards. SCHREB. ST.—*Leaves* in moiſt and rich ſoils upright, 3 or 4 feet high, and trebly winged, the lower pair of leafits ſhorter than thoſe above; on dry rocks and banks 10 or 12 inches high, the firſt pair of leafits the largeſt, and the only pair that are triply divided. BOLT.—*Serratures* ending in ſhort awns. Mr. WOODWARD.—Points of all the *ſerratures* bowed inwards. ST.

Polypodium Mull. frid. n. 841, and 845.—*P. ſpinuloſum.* Fl. dan. 707, as is evident from the reference to the Fl. frid. In the fig. in the Fl. dan. none of the wings are cut, but they are deſcribed as being ſo in the ſpecific character. ST.

Moiſt woods and ſhady places, in a gravelly or rocky ſoil, from the chinks of moiſt rocks and old walls; and in marſhy places at the roots of hollow oaks. [Bogs on Birmingham Heath. WITH.]

P. June—Sept.

POLYPO'DIUM *Oreo'pteris.* Leaves almoſt doubly winged, ſpear-ſhaped. Leafits very entire, bluntiſh; fructifications at the edges.— *heath*

Bolt. 22.

Stem ſmooth, with 2 furrows; about a foot high; *wings* alternate; *leafits* ſpear-ſhaped, bluntiſh. WILLDENOW. 291. n. 883.—*Leafits*, lower ones ſmall, triangular, remote; upper ones near, ſpear-ſhaped. VOGLER.—*Root* large, ſcaly. *Fructifications* always marginal, both in the young and old ſtate, and never become confluent; *leafits* always flat. Four times as large as the *P. Thelypteris.* DICKSON. *Tranſ. L. S.* 1. 182.

Polypodium montanum. Vogler.—*P. Thelypteris.* Hudſ. Lightf. Bolt.

In Wales. North of England. On dry hills through all Scotland. DICKSON. P.

* Haller ſays, from a ſpecimen ſent him by Muller, that it is *P. Filix fœmina.*

**** *Leaf doubly winged.*

male POLYPO'DIUM *Fi'lix mas.* Leaves doubly winged. Wings blunt, finely ſcolloped. Stalk chaffy.—

Bull. 183.—*Gunner* 1. 4, *portion of a leaf.*—*Tourn.* 310, *upper ſurface;* 311, *under ſurface;* 312, *fructifications.*—*Bolt.* 24.—*Ger.* 969. 1.—*Fuchſ.* 568, *cop. in J. B.* iii. 738. 1, *and Dod.* 462. 1.—*Blackw.* 323, *good, except that the wings are not ſcolloped.*—*Garſ.* 271.—*H. ox.* xiv. 3. 6.—*Matth.* 1290, *imit. in Cam. epit.* 991, *which cop. in Park.* 1036.—*Lob. obſ.* 473. 1, *retr. in ic.* i. 812. 1, *and Ger. em.* 1128.—*Lonic.* i. 223. 3.

Fructifications kidney-ſhaped. LINN.—*Wings* ſemi-elliptical, Mr. WOODW.—often ſerrated to the baſe. ST.—*Fructifications* from 7 to 3 on each leafit. WITH.

Male Polypody. Male Fern.

Woods, heaths, and ſtony places. P. June—Oct.

The Siberians boil it in their ale, and are fond of the flavour which it imparts to it. The powder of the root is Madame Nouffer's celebrated remedy to expel the tape-worm. She gives the patient a liquid lubricating ſupper, and if coſtive a common glyſter. Early next morning two or three drams of the root in powder are exhibited mixed with water. If thrown up it muſt be repeated. The patient muſt faſt two hours, and then take a draſtic purge. *See Dr. Simmon's account of the Tænia.*

A horſe eat it. ST.

female POLYPO'DIUM *Fi'lix fœm'ina.* Leaves doubly winged. Little wings ſpear-ſhaped, with winged cleſts, pointed.—

Pluk. 180. 4.—*H. ox.* xiv. 3. 8.—*Bolt.* 25.—*Munt.* 288. 84.—*J. B.* iii. 738.—*Hedwig. Theoria.* 7. 34, *a leafit magnified.*—*(Blackw.* 325, *is Pteris aquilina before it has reached its ſtate of maturity.)*

Fructifications egg-ſhaped, ſomewhat fringed, ſolitary. LINN.—*Lobes* deeply cut with one or two diviſions; teeth often ending a ſhort awn. Mr. WOODWARD.—Very brittle. The moſt elegant of all our Ferns. One dot of fructifications on each little lobe of the leaf. BOLT.

Moiſt and ſhady marſhy places, moiſt rocky woods, and about brooks and rivulets, and on heaths. P. June—Sept.

β *Pluk.* 284. 3, *cop. in Brit. herb.* 30, *a ſingle wing. Elegant Staffordſhire Fern, the points of the leaves finely cut. Pluk.* 151.

Found by Sir T. Willoughby on Lichfield Minſter. *Brit. herb.*

POLY-

POLYPO'DIUM *Thelyp'teris.* Leaf doubly winged. *marſh*
Leafits with winged clefts, very entire; quite covered with duſt on the under ſide. —

Hedwig. 6.—*Schmidel.* 11. 1. 2.—*Bolt.* 43.—*Fl. dan.* 760.—*Mapp.* 7. *a. at p.* 106.—*J. B.* iii. 739. 1.—*Ger.* 981. 3.—*Ger. em.* 1135. 1, *cop. in Park.* 1041. 1.

Its habit that of *P. Filix mas. Stem* ſmooth. Old *leafits* covered with ſeed-veſſels. *Barren leaves* broader and blunter. LINN.—*Root* ſmall, creeping. DICKSON.—*Leafits* alternate, confluent; in the barren plant broader; in the fertile plant, the edges bent back when the fruit ripens. Mr. WOODWARD.—*Leaves* moſtly doubly winged. *Leafits* very entire. WILLDENOW. 292. n. 884. WITH.

Bogs; native of England. LINN.—About Norwich. Mr. DICKSON. —[St. Faiths Newton Bogs near Norwich. Mr. PITCHFORD.—Bogs near Bungay, Suffolk. Mr. WOODWARD.] P. July.

β Leaves almoſt doubly winged, ſpear-ſhaped; leafits crowded; lobes blunt, ſerrated; ſtalk chaffy.

P. fragrans. HUDS. LINN. ſyſt. pl.

Its habit that of *P. F. mas*, but far ſmaller. Leafits more cloſely crowded. Lobes on the ſides blunt, more deeply ſerrated. LINN. —I have ſeen a perfect ſpecimen of P. Thelypteris only ſix inches high, which I ſuſpect to be Hudſon's plant. ST.—I ſuſpect the P. fragrans of Mr. Hudſon to be a variety of the P. Thelypteris; the ſeeds taking root in rocks, produce ſmall plants, having the parts crowded. BOLT.

Moiſt clefts of rocks near Keſwick, Weſtmoreland. HUDS.
P. July—October.

POLYPO'DIUM *aculea'tum.* Leaves doubly winged. *prickly*
Wings creſcent-ſhaped, with fringe-like teeth. Stalk chaffy. —

Mill. ill.—*Bolt.* 26. 1 *and* 3.—*H. ox.* xiv. 3. 15. *f.* 1.—*Pluk.* 179. 6, *a young plant only winged.*—*Pluk.* 180. 1, *fully grown.*—*Pluk.* 180. 3, *in its middle ſtate of growth.*

Lobes awned at the end, and one or two of the ſerratures awned. Mr. WOODWARD.—*Leaf* of plants not arrived at an age ſufficiently mature to produce fructifications ſimply winged, in which ſtate it correſponds with the character of *P. Lonchitis*, but it is not of ſo thick and rigid a texture, and the wings are more cut. ST. See BOLT. fig. 2. plate 26. WITH.

Woods and ſhady places. P. June—Oct.

β HUDS. ſeems to be the plant in its fulleſt perfection. ST.

γ HUDS.—Leaves ſprinkled with a moſs-like down. PLUK.

δ The uppermoſt wing of the lowermoſt pair of each leafit conſiderably larger than the reſt, St.—though this ſeems always more or leſs the caſe. With,

Polypodium lobatum. Huds. which ſee.

ε General midrib forked towards the top. St.

lobed POLYPO'DIUM *loba'tum.* Leaves doubly winged. Little wings egg-ſhaped, with fringe-like ſerratures, eared at the upper ſide of the baſe. Stalk chaffy. Huds.

Pluk. 180. 3.—*(Bolt.* 26. 2, *is a ſtill younger plant of P. aculeatum, than what Mr. Hudſon appears to intend by his P. lobatum.)*

Very nearly allied to *P. aculeatum.* Poſſibly not a diſtinct ſpecies, Huds.—It ſhould ſeem to be merely a younger plant, Dill. Lightf. Mr. Woodward, St. With.

Shady places, and hedges. P. June—Sept.

ſtone POLYPO'DIUM *rhæ'ticum.* Leaves doubly winged. Leafits and wings diſtant, ſpearſhaped. Serratures taper-pointed.—

Bolt. 45.—*H. ox.* xiv. 4. 28.—*Pluk.* 89. 4, *is referred to by Mr. Hudſon and Bolton, but the wings in that figure are oppoſite. It ſeems to be a delicate plant of P. criſtatum.*

Very cloſely allied to *P. criſtatum,* but much ſmaller. I am in doubt whether it be a diſtinct ſpecies. Huds.—Not one fourth ſo large. *Wings* never more than with winged clefts; ſerratures not ſo deep, or pointed, and taper-pointed, not awned. Mr. Woodward, —About a foot high. Upper leafits of the wings larger than the oppoſite lower ones, which at once diſtinguiſhes it from the *P. fragile.* Bolt. With.

In Scotland, Mr. Dickson.—On ſtony mountains in Weſtmoreland. On the top of Glyder mountain, on the ſide which hangs over Llyn Ogwan Lake; and near Phainon Vellon. [On walls near Ambleſide, Weſtmoreland, Mr. Woodward.] P. June—Sept.

brittle POLYPO'DIUM *frag'ile.* Leaves doubly winged. Leafits diſtant. Little wings roundiſh, cut.—

Bolt. 46 *and* 27.—*Pluk.* 180. 5.—*Seguier.* i. 1. 1.—*Barr.* 432. 2. —*Fl. dan.* 401.—*J. B.* iii. 741. 2.—*Dod.* 465, *repr. in Ger. em.* 1135. 2, *wings too broad if the plant.*

Stalks ſmooth, very tender, extremely brittle, reddiſh at the baſe. *Leafits* winged, nearly oppoſite, 10 to 15 pair. *Wings* 6 to 8 pair, diſtinct, with three or more lobes on each ſide, veined. *Fructifications* 4 to 8 on a wing, ſometimes covering almoſt the whole under ſide of the leaf. Weis. St. With.

Dry

Dry ſtony places, in the Northern parts of the iſland; in Wales; and about Briſtol.—On old caſtles and ſtone fences, about Settle, Yorkſhire. [Rocks at Matlock, Derbyſhire, and the Northern counties. Mr. WOODWARD.] P. June—Sept.

β HUDS.—Smaller. Leaves divided into longer and finer ſegments. RAY.

On the higheſt rocks of Snowdon in a place called Clogwyn du yn yr Ardhu. LLHWYD *in H. ox.* iii. 581. *n.* 31.

γ Wings oblong, cut, ſerrated. ST.

Specimen from the garden of the late Mr. More of Shrewſbury. Mr. DICKENSON.

δ Taller and ſlenderer. Rib pale green. Leafits more remote. Whole plant lighter, more tranſparent, and more delicate. BOLT. ST. *Bolt.* 2. 6.

In moiſt and very ſhady ſituations in the deep fiſſures of moiſt rocks where the ſun was excluded. BOLT.—[On the moiſt rocks of Crib y Dŷ Ddeſcil near Lianberris, Caernarvonſh. Mr. GRIFFITH.]

***** *Leaves more than doubly compound.*

POLYPO'DIUM *Dryop'teris.* Leaves more than doubly compound. Leafits in threes, doubly winged.— *branched*

Bolt. 28.—*Trag.* 538, *cop. in J. B.* iii. 741. 1, *and imit. in Lon.* i. 224. 2.—*Ger.* 974. 2.—*Cluſ.* ii. 212. 1, *repr. in Ger. em.* 1135. 3, *and a branch cop. in Park.* 1044, *middlemoſt figure, and the whole imitated in H. ox.* xiv. 4. 19.—*(Fl. dan.* 759, *with wings diſtinct at the baſe, and ſharply ſerrated, cannot ſurely have been intended for it.)*

Fructifications placed near the rib of the lobe of the leafit. BOLT. WITH.

Dry ſtony places in Yorkſhire, Lancaſhire, Weſtmoreland, and Scotland. [Amongſt the rocks at the fall of Lodore on the ſide of Derwent-water, Cumberland. Mr. WOODWARD, ST.—Barrowfield Wood near Kendal, and other rocky woods in the North. Mr. WOODWARD.] P. June—Sept.

β Leaves larger. The largeſt lobes lobed or divided half way down to the mid-rib. Stalk taller, firmer, white, opaque. BOLT. *Bolt.* 1. 1.

In White-ſcars near Ingleton, Yorkſhire, and in the Peak of Derbyſhire. BOLT.

The Fern Moth feeds upon the different ſpecies of Polypodium.

1297. ADIAN'TUM. Maidenhair.

FRUCTIFICATIONS in oval ſpots, under the ends of the leaves, which are bent back.

ESS. CHAR. *Fructifications in terminating ſpots, under the margin of the leaf folded back.*

true ADIAN'TUM *Capil'lus ven'eris.* Leaves doubly compound; leafits alternate. Wings wedge-ſhaped; lobed, on leaf-ſtalks.—

Bull. 247.—*Bolt.* 29.—*Tourn.* 317. 2.—*Ger.* 982. 2.—*Tourn.* 317. 2.—*Cam. epit.* 924, *cop. in Park.* 1049. 1.—*Matth.* 1201. —*J. B.* iii. 752.—*Lob. adv.* 361. 1, *repr. in ic.* i. 809. 2. *Garſ.* 125. *A.*—*Ger.* 982. 1.—*Fuchſ.* 82, *cop. in Trag.* 531.—*Dod.* 469. 2, *repr. in Ger. em.* 1143. 1.

About 5 or 6 inches high. *Lobes* fan-ſhaped, with 4 or 5 nicks at the end. BOLT. WITH.

Maidenhair.

Rocks and moiſt walls. Barry Iſland and Port Kirig, Glamorganſhire.—Iſle of Arran, near Galloway. P. May—Sept.

1298. TRICHO'MANES. Goldilocks.

EMPAL. turban-ſhaped, ſingle, upright; riſing from the very edge of the leaf.

Shaft briſtle-ſhaped; terminating the Capſule.

ESS. CHAR. *Fructifications ſolitary, terminated by a briſtle-ſhaped Shaft, and inſerted into the very edge of the leaf.*

cup TRICHO'MANES *pyxidif'erum.* Leaves almoſt doubly winged. Wings alternate, crowded, lobed; ſtrap-ſhaped.—

Bolt. 30.*—*Ray* 3. *f.* 4. *at p.* 128, *a young plant.*—*Pet. pter.* 13. 13.—*Ray* 3. 3, *fully grown, but Mr. Bolton aſſures us much larger than any he has ſeen growing.*

Root woolly and hairy. *Stems* winged, browniſh black below, green above. *Leaves* thin, pellucid, ſhining, deep green. *Fructifications* none obſervable. DILL. *in R. ſyn.* 127. n. 14.—*Leaves* indiſtinctly

* Does not well expreſs the appearance of my ſpecimens. Mr. WOODWARD.

tinctly waved or ſcolloped on their edges. *Seed-veſſels*, none diſcovered. Our plant probably only a luxuriant variety of *T. tunbrigenſe*, their figure, texture, and whole habit being the ſame, and differing only in ſize. In cavities excluded from the ſun, I have found ſpecimens partaking equally of *T. pyxidatum* and *tunbrigenſe*, which are figured in t. 2. f. 7. Bolt.—*Wings* varying in ſhape, all deeply lobed, very entire at the edge; little reſembling *T. tunbrigenſe* in any thing but the thinneſs and tranſparency of its leaves. It has not been found in fructification, but many ſpecies of Moſſes are found in abundance year after year, without any fructifications ever appearing. Mr. Woodw.—But in the fig. of Pet. referred to by Linnæus and Hudſon, ſeed-veſſels are repreſented. St. With.

On dripping rocks. At Belbank, half a mile from Bingley, at the head of a remarkable ſpring, *R. ſyn.*—in a little dark cavern under a dripping rock, a little below the ſpring of Elm Cragg Well. Bolt.

P. Aug.

TRICHO'MANES *tunbrigen'ſe*. Leaves winged. Wings oblong; forked; running down the rib; toothed. *tunbridge*

Fl. dan. 954.—*Bolt.* 31,* *teeth ſcarcely obvious, and the fruit on naked fruit-ſtalks.*—*Bolt.* 2. 7.—*Pluk.* 3. 5. — *H. ox.* xv. 7. 50. —*Pluk.* 3. 6.

Globules conſiſting of ſeeds produced between 2 leafy valves. Linn.—Wings ſometimes, not always, ſerrated or ſcolloped. Bolt. —*Wings* elliptical, narrow; teeth ſharp. Mr. Woodw.—*Leaves*, all producing fructifications when growing in an open expoſure, but in chinks of ſhady rocks they become luxuriant, aſſuming the appearance of *T. pyxidiferum*, and never bear fructifications. Perhaps in the latter ſtate, it is the plant ſuppoſed by the Engliſh botaniſts to be *T. pyxidiferum*. Mr. Griffith.—*Empalement* ſitting, leaves 2, irregularly ſquare, ſomewhat toothed. *Fructifications* ſimilar to thoſe of other Ferns, on a narrow ſpike-ſtalk. St.—*Empalement* ſupported on a ſhort fruit-ſtalk. With.

Moiſt clefts of rocks and ſtony places. Near Tunbridge, amongſt the pebbles at Cockbuſh, on the coaſt of Suſſex. On Dartmore, Devonſhire, and on the mountains of Weſtmoreland, Cumberland, Yorkſhire, and Wales; and both in the Lowlands and Highlands of Scotland. [High mountain at the Head of Winandermere, Weſtmoreland. Dr. Smith.] P. May—Oct.

β Larger. Bolt. p. 59, and xii.

Bolt. 2. 7.

Accords

* Teeth of the leaves not well expreſſed. Mr. Woodward.

Accords with α in figure, texture, colour, and habit. BOLT.—Specimens according exactly with Mr. Bolton's figure, from a root which produced other ſmaller leaves which bore fructifications, Mr. GRIFFITH.—*Leaf* of Mr. Griffith's ſpecimen two inches and a half high, thoſe of other ſpecimens from Scotland exactly ſimilar to it, and which bear fructifications quite as large. Theſe circumſtances conjoined with what is remarked in the notes on the *T. tunbrigenſe*, induce me to believe Linnæus's *pyxidiferum* and *tunbrigenſe* to be varieties of one and the ſame ſpecies. ST.

1300. PILULA'RIA. Pillwort.

Barren Flowers like powder, in a line under the leaf.
Fertile Flowers at the root.

CAPSULE globular; with 4 cells, containing many ſeeds.

ESS. CHAR. *Flowers, the barren on the ſide of the leaf. Fructification fertile, near the root, globular, with 4 cells.*

ruſtleleaved PILULA'RIA *globulif'era.*

Dill. 79, *before the fruit quite ripe.* — *Fl. dan.* 223, *fruit ripe.*—*Bull.* 375.—*Bolt.* 40.—*Pet.* 9. 8.—*Vaill.* 15. 6.*—*Pluk.* 48. 1.—*H. ox.* xv. 7. 49.

Capſule filled in the lower part with oval, ſomewhat angular white ſeeds, containing a yellow kernel; but towards the top with white conical ſubſtances of about the ſame ſize, compoſed of a membranaceous ſemi-tranſparent coat, containing a number of ſmall globular grains. As Linnæus does not inform us that he examined with a microſcope, what he conceived to be the barren flowers, and as from his placing the genus in this claſs, it ſhould ſeem that he had not diſcovered any *Duſt*, it is poſſible that the bodies juſt now deſcribed, may perform the office of impregnating the ſeeds within the capſule analagous to the ſtructure of *Ficus*. ST.

Peppergraſs. Peppermoſs.

In grounds that have been overflowed, eſpecially in a ſandy ſoil.—Near Streatham Wells, Petersfield, and on Hounſlow Heath. [Hainford and Stratton Heaths, Norfolk, Mr. CROWE.—St. Faiths Newton Bogs. Mr. PITCHFORD.] P. June—Sept.

1301. ISO'ETES.

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* Capſules too ſmooth. Mr. WOODWARD.

1301. ISO'ETES. Quillwort.

Barren Flowers ſolitary; within the boſom of the inner leaves.
EMPAL. *Scale* heart-ſhaped, pointed, ſitting.
BLOSS. none.
CHIVE. *Thread* none. *Tip* roundiſh, with 1 cell.
Fertile Flowers ſolitary, within the boſom of the outer leaves of the ſame plant.
EMPAL. as above.
BLOSS. none.
POINT. *Seedbud* egg-ſhaped, and together with the *Shaft* and *Summit* concealed within the leaf.
S. VESS. *Capſule* ſomewhat egg-ſhaped, with 2 cells; concealed within the boſom of the leaf.
SEEDS numerous; globular.
ESS. CHAR. *Barren Flowers within the boſom of the leaf. Fertile Fructification; Capſule of 2 cells, within the boſom of the leaf.*—

ISO'ETES *lacuſtris*. Leaves awl-ſhaped, ſemi-cylindrical, bowed back.— *common*
Bolt. 41.—*Fl. dan.* 191.—*Dill.* 80. 2.—*Ray ed.* i. 2, *at p.* 1.
Root fibrous; fibers numerous, ſimple, ſlender, ſtriking deep into the mud. *Leaves* quite limber, growing in thick tufts, 6 or 7 inches long, extremely like young ruſhes, convex on the back, flat, or ſlightly convex in front; the tranſverſe diaphragms not very apparent in our ſpecimens; at the baſe ſwelling into a kind of bulb, covered by a thin tender ſkin, which burſts and diſcovers it to be filled with numerous minute whitiſh ſeeds, which examined in the microſcope appear ſpherical, roughiſh, ſomewhat tranſparent, and having 3 ribs meeting in a center. Mr. WOODW.—I have often found it in ſeed. Mr. GRIFFITH.
At the bottom of lakes. In Phynon-vrech, [ffynnon frêch] a ſmall lake near the top of Snowdon. R. *ſyn.* Mr. GRIFFITH.] Near Llanberris, and Lyn Ogwan; near the top of Snowdon; Loch Tay, and other Highland lakes.—Llyn y Cwn near Snowdon. PENNANT. [Derwent Water, Cumberland. Mr. WOODWARD.]
P. May—Sept. [In ſeed in July. Mr. GRIFFITH.]
β HUDS.—*Dill.* 80. 1? *I have often found a plant reſembling this, but never could find it in ſeed.* Mr. GRIFFITH.
Leaves not ſo ſtiff, from the baſe of which riſes a ſtem throwing off ſhoots at different diſtances. RICHARDSON in R. *ſyn.*—What is meant by a ſtem? ST. [I have

[I have found leaves of it in Llyn Ogwen, but could not procure an entire plant. Mr. GRIFFITH.—At the bottom of Derwent Water, Mr. WOODW.]—In the lake, and by the ſide of a river in Wales.

γ HUDS.—Leaves very brittle, ſometimes twice as long as thoſe of α, narrower, and more pointed, tranſparent, with many minute pores. RICHARDSON in R. *ſyn.* Grows with α. *ib.* p. 307.

MUS'CI. Moſſes.

1302. LYCOPO'DIUM. Clubmoſs.

* Ess. CHAR. *Capſule of 2 valves, ſitting. Veil none.*

common LYCOPO'DIUM *clava'tum.* Leaves ſcattered, terminating in threads. Spikes cylindrical, on fruit-ſtalks, in pairs.—

Dill. 58. 1.—*Fl. dan.* 126.—*H. ox.* xv. 5. *row* 1. 2.—*Geſn.* i. *tabula picta, f.* 2.—*Blackw.* 535.—*Pluk.* 47. 8.—*Trag.* 555, *cop. in Lon.* i. 179. 1, *and imit. in Ger.* 1374. 11, *which repr. in Matth. a. C. B.*—*Lob. obſ.* 645. 1, *repr. in ic.* i. 2442, *and Ger. em.* 1562. 11.—*Matth.* 63.—*Park,* 1307. 4, *cop. in J. B.* iii. 766.

Stem creeping. *Leaves* open. LINN. — *Shoots* from one to ſeveral feet in length, firmly attached to the earth by woody fibres. *Branches* expanding, diſtant, trailing; the lower ones again ſub-dividing into forks. *Leaves* cloſely tiled, ſtrap-ſpear-ſhaped, pointed, and hooked, with long white hairs at the end. In the ſummer, from the ends of the branches, the fruit-ſtalks riſe up, almoſt leafleſs, jointed, ſtraight, rigid, from 2 to 4 inches high, dividing at the top into 2 (or 3) cylindrical, flowering ſpikes. *Spikes* cloſely tiled with ſcales or huſks, egg-ſpear-ſhaped, pointed, hairy at the end, ragged at the edges. Each of theſe ſcales incloſes a kidney-ſhaped yet low Capſule, exploding when ripe a yellow powder, which reſembles ſulphur, and burns with an exploſion. WEIS.—Both barren and ſpike-bearing ſtems forked, and again ſub-dividing into forks, as often as 5, 6, or 7 times. *Branches* from the principal ſhoot, alternate. DILL. *Club-*

* Since the late diſcoveries relative to the fructification of Moſſes, &c. the Generic deſcriptions of Linnæus appear ſo erroneous, that it was thought right to omit them.

Club-moſs. Wolf's Claw.—Dry places on mountains, heaths, and woods. Hampſtead and Hounſlow Heaths, near Eſher. [Monſhold Heath, near Norwich. Mr. PITCHFORD.—Derbyſhire, and the North Mr. WOODWARD.—Cannock Heath, Staffordſhire. WITH.]

P. July, Aug.

In Sweden they form it into mats or baſſes, which lie at their doors to clean ſhoes upon.—Reſtores ropy wine in a few days.

LYCOPO'DIUM *Selaginoi'des.* Leaves ſcattered, *prickly* fringed, ſpear-ſhaped. Spikes ſolitary, terminating, leafy.

Dill. 68, *Selaginoides.*—*Fl. dan.* 70.—*Scheuch. it.* i. 6. 1, *at p.* 43.—*Hall. enum.* 3. 1. *at p.* 109, *repr. in hiſt.* 46. 1, *at* iii. *p.* 56.—*H. ox.* xv. 5. *row* 2. 11, *the lower part of the figure, the upper being L. inundatum, Dillenius having found a ſpecimen, in Bobart's herbanium, in which the two ſpecies were mixed together, and from which moſt probably the figure was made.*—Pluk. 47. 7.

Capſules, thoſe at the baſe of the lower leaves when viewed ſideways apparently in threes, but really in fours, one pair above and the other pair below; at length gaping, and diſcloſing as many large ſolid *ſeeds; thoſe at the baſe of the upper leaves* yellower, of a looſer texture, entirely ſimple, round, not containing ſeeds but *duſt.* LINN.—*Leaves* toothed towards the baſe, nearly two lines long. *Branches* two inches long. *Capſules* in the boſom of the upper leaves. SCOP.

Mountainous heaths and paſtures. In Scotland, the North of England, and Wales. [Mountains in Weſtmoreland. Mr. WOODW.]

P. June—Sept.

LYCOPO'DIUM *inunda'tum.* Leaves ſcattered, *marſh* very entire. Spikes terminating, leafy.—

Fl. dan. 336.—*Dill.* 61. 7.—*Vaill.* 16. 11.—*H. ox.* xv. 5. *row* 2. 11, *the middle and upper branches, the reſt belonging to L. Selaginoides. See that ſpecies.*

Stem creeping. *Spikes* ſolitary, ſitting, ſmooth. LINN.—Branched; the length of a finger or more; cylindrical. *Spikes* ſitting, upright. *Leaves* awl-ſhaped, pointed, ſmooth, on the creeping ſhoots pointing one way, two lines long, and one broad at the baſe. POLLICH.—*Shoots* creeping, pointing one way, thoſe bearing ſpikes an inch long, upright, cylindrical. *Leaves* ſtrap-ſhaped, crowded, without terminating hairs. *Spikes* leafy, not different from the ſhoots except in being thicker. *Capſules* compreſſed, roundiſh, not kidney-ſhaped. WEBER.

Moiſt heaths and turfy bogs. Hounſlow Heath, and near Eſher. [Near Norwich, Ellingham Fen near Bungay, Suffolk. Mr. WOODW.]

P. June—Sept.

LYCO-

fir-leaved LYCOPO'DIUM *Sela'go.* Leaves ſcattered; pointing 8 ways. Stem forked; upright. Branches all of the ſame height. Flowers ſcattered.—

Dill. 56. 1.—*Fl. dan.* 104.—*H. ox.* xv. 5, *row* 2, 9.—*Scheuch. it.* i. 6. 2.

Leaves obliquely diſpoſed in 8 rows, which may be beſt obſerved by looking at them, holding the ends of the branches perpendicular to the eye. LINN.—*Stems* upright, branched, from 3 to 7 inches high, forked; branches again forked, cloſely covered with leaves. *Leaves* ſpear-ſhaped, ſharp-pointed, ſtiff, ſmooth, ſhining, ſcolloped or ſerrated, and cartilaginous at the edge. *Capſules* in the boſom of the upper leaves, kidney-ſhaped, flatted, yellow, opening like an oyſter, and pouring out a pale yellow powder. WEIS.—Root dividing into forks like the ſtem. DILL.

Mountainous heaths, in the clefts of rocks in Yorkſhire, Lancaſhire, Weſtmoreland, Cumberland, the Highlands and Hebrides.—Near the top of Ingleborough, Yorkſhire. CURT. *obſ.* 132. [Mountains in the North. Mr. WOODWARD.] P. April—Oct.

It purges, vomits, and deſtroys worms. A decoction of it is a cure for lice in ſwine and cattle. LINN. — Its properties ſeem to challenge further inquiry.

welſh LYCOPO'DIUM *anno'tinum.* Leaves ſcattered, pointing 5 ways; ſomewhat ſerrated. Stem jointed at each year's ſhoot. Spikes terminating the laſt, ſmooth, upright.—

Dill. 63. 9.—*H. ox.* xv. 5. *row* 1. 3.—*Fl. dan.* 127.—*Pluk.* 205. 5.

Branches contracted at the laſt year's ſhoots, as in the female of the Polytrichum *commune.* *Leaves* whorled, in fives, expanding, running down. LINN.—*Stems* trailing, very long. *Leaves* not ending in hairs, a little ſerrated, very rigid when dry. Flowering ſpikes ſitting. *Fructification* as in *L. clavatum.* WEIS.—*Spikes* hardly one inch long; ſcales egg-ſhaped. *Leaves* four lines long, and one and a half broad; toothed towards the ends.—In Plukenett's fig. the leaves are too ſmall, and erroneouſly repreſented upright. DILL.

On the mountains of Caernarvonſhire. R. *ſyn.* P. June—Sept.

It is made into baſſes, and affords a yellow dye.

mountain LYCOPO'DIUM *alpi'num.* Leaves pointing 4 ways; tiled; pointed. Stems upright; cloven. Spikes ſitting; cylindrical.—

Dill. 58. 2.—*Fl. lapp.* 11. 6.—*Fl. dan.* 79.—*J. B.* iii. 767. 1; —*Ger.* 948 *(inſtead of* 952,*) repr. in Matth. a. C. B.* 120. 2, *cop.*

cop. in Ger. em. 1562. 12, *and re-copied in Park.* 1310. 1, *are L. complanatum.*

Stem creeping, from a ſpan to a foot long. *Branches* alternate, at an inch diſtant from each other, upright, forked, of the length of a little finger. *Little Branches* bundled, from 20 to 30 together, exactly four-cornered, the angles blunt. *Leaves* thickiſh. *Fruit-ſtalks* terminating a branch here and there, ſcarcely two or three lines high, forked, ſcarcely diſtinguiſhable from the branches, covered with ſmaller leaves, bearing as many ſpikes. *Spikes* egg-ſhaped, nearly ſmooth. LINN.—All the branches divided, and repeatedly ſub-divided into forks. DILL.

Mountainous heaths in Yorkſhire, Cumberland, and the mountains of Wales, the Highlands and Hebrides. — Near the top of Ingleborough, Yorkſhire. CURT. *obſ.* 133.—[Near the Holme, about 5 miles from Burnley, Lancaſhire. Mr. WOODWARD.]

P. July—Oct.

1304. SPHAG'NUM. Bogmoſs.

Ess. CHAR *Capſule with a lid, mouth ſmooth. Veil none.*

SPHAG'NUM *paluſtre.* Branches bent downwards.— *grey*

Hedw. Theor. 12. 42 *to* 45, *and* 13. 46, 47, *hiſt.* i. 1. 1, *ib.* ii. 3. 9.—*Vaill.* 23. 3.—*Dill.* 32. 1.—*Fl. dan.* 474.—*Pluk.* 101. 1. *Scheuch. it.* i. 5. 4, *at p.* 38.—*Lob. ic.* ii. 242. 2, *repr. in Dod.* 472. 1, *Ger. em.* 1559. 1, *and cop. in Park.* 1306. *n.* 1.

Capſules burſt with a crackling noiſe. LINN.—Growing in tufts. *Shoots* 6 to 12 inches high. Pale green; white when dry. *Seeds* greeniſh. Readily known by its whitiſh colour, and its globular Capſules. NECK.—The greater part of the ſtem buried in the mud, the part above from 4 to 12 inches high, ſometimes ſub-dividing. *Branches* undivided, irregular, the lower more diſtant, the upper forming a ſort of broad topped ſpike, but all of them hanging down. *Leaves* egg-ſpear-ſhaped, cloſely tiled. *Fruit-ſtalks* 2 or 3 lines long, terminating. *Capſule* globular. *Lid* convex, beaked. *Mouth* even. WEIS.

Peat Bogs. [Near Bungay, Suffolk. Mr. STONE.] P. July, Aug.

β The whole habit more ſlender.

Dill. 32. 2.—*Hedw. hiſt.* i. 3. 3.—*Mapp. at p.* 200. C.

Peat Bogs. P. July, Aug.

In

In variety (α) the leafits are concave, oblong, blunt; in (β) flat, awl-ſhaped, ſharp. Are they not diſtinct ſpecies, the firſt growing in running, the latter in ſtagnant water? WILLDENOW.

alpine SPHAG'NUM *alpi'num.* Somewhat branched; upright.—

Dill. 32. 3.

Schreber conjectures it to be a *Bryum.* LINN.—Of a beautiful green. *Capſules* egg-ſhaped. *Leaves* ſtrap-ſpear-ſhaped, pointing 3 ways. NECK.—In a denſe compact tuft, about a finger's length, ſometimes dividing in the middle into 2 or 3 branches. *Leaves* a ſplendid intenſe green, long, narrow, pointed, ſtraight, ſtiff. *Capſules* on ſhort fruit-ſtalks, colour of pale wax, egg-ſhaped. DILL.

Bogs on Cader Idris, and Snowdon. DILL. [But I have never found it there in fructification. Mr. GRIFFITH.] Aug.—Oct.

tree SPHAG'NUM *arbo'reum.* Branched; creeping. Capſules on the ſides of the branches, pointing one way.

Hedw. Stirp. 3. 15.—*Dill.* 32. 6.—*Vaill.* 27. 17.

Deep green. *Branches* ſometimes ſub-divided. *Leaves* ſhort, numerous, triangular, concave. *Capſules* oblong, on very ſhort fruit-ſtalks, on every part of the ſtem, pointing one way, nearly encloſed by an Empalement compoſed of narrow leafits, ending in hairs, very numerous. *Lid* ſpit-pointed, brown. DILL.—An inch high, ſtiff, but not upright, more or leſs branched at the baſe. *Branches* ſhort, expanding. HEDWIG.

1305. PHAS'CUM. Earthmoſs.

ESS. CHAR. *Capſule with a lid, the mouth fringed. Veil minute, deciduous.*

OBS. Phaſcum *acaulon* and *ſubulatum* are furniſhed with a Veil, and therefore may properly be aſſociated with the Bryum's. LINN.

oval PHAS'CUM *acau'lon.* Stemleſs. Capſule ſitting. Leaves egg-ſhaped, pointed, approaching.—

Schreb. phaſc. 1. 1 *and* 2.—*Curt.* iv. 46. 276.—*Dill.* 32. 11.—*Fl. dan.* 249. 3, *cop. in Happ.* ii. *Phaſc.* 1, *a.*—*Neck. meth.* 1. 1, *at p.* 273, *a veil magnified.*—*Pet.* i. 95. 14.—*(Vaill.* 27. 2, *ſeems to be P. muticum.*—*Dill.* 32. 12, *is P. muticum.*—*Fl. dan.* 249. 1, *is Buxbaumia foliosa. For Icon Oederi t.* 249. *f.* 3 *in Wigg. p.* 80, *and Reich. ſyſt. pl.* iv. *p.* 662, *read f.* 1.)

Has

Has a *veil* and a *lid*. LINN.—*Shoots* crowded. *Veil* on one ſide the capſule. NECK.

Heaths and ditch banks on ſandy ſoil. A. Jan.—May.

β *Schreb. phaſc.* 1. 11 *and* 12.—*Dill.* 32. 12.—*Vaill.* 27. 2.

Shoots 1 year old bearing bulbs. *Capſules* ſhining, globular. *Veils* wide at bottom, fugacious. NECK.—*Leaves* forming a kind of roſes, the outer ones open, the inner ones bending inwards, incloſing a *Capſule*, egg-ſhaped, orange coloured or brown, very minute. *Lid* beaked. *Veil* ſlightly ſcored, covering one ſide of the capſule. WEIS. —Only a few lines in length, growing in patches. *Leaves*, upper ones the largeſt, approaching ſo as to form a ſort of bulb; ſkinny, concave, ſoft, without a nerve, ending in a ſhort hair, which is beſt ſeen in the dry plant. DILL.

Garden walks, hedges and ditch banks, winter and ſpring.

PHAS'CUM *curvicol'lum*. HEDW.—Stemleſs. Capſules on fruit-ſtalks, bowed downwards. Leaves ſpear-ſhaped, taper pointed, open. DICKS. *crooked*

Dickſ. 1. 3.—*Hedw. ſtirp.* i. 11.

Plant extremely minute, hardly viſible to the naked eye, unleſs growing in cluſters and bearing its ſwollen Capſules. *Fence*, leaves ſtraight, ſtrap-ſpear-ſhaped; the other leaves egg-ſpear-ſhaped. *Fruit-ſtalks* very much bowed. *Capſules* egg-ſhaped, brown and mottled when ripe. *Veil* very ſmall. *Lid* with a ſhort beak. Often mixed with Bryum *argenteum*. Ripens in May. HEDWIG.

In barren graſſy places, near Croydon. DICKS.

PHAS'CUM *ſubula'tum*. Stemleſs. Capſule ſitting. Leaves awl-briſtle-ſhaped, open.— *awl-leaved*

Hedw. ſt. i. 35.—*Curt.* iv. 46. 275.—*Fl. dan.* 249. 2, *cop. in Happ.* ii. *Phaſcum* 1. *b.*—*Dill.* 32. 10.—*Vaill.* 29. 4.—*(Fl. dan.* 249. 1, *is Buxbaumia foliosa.)*

Capſules continuing all the ſummer, reddiſh and yellowiſh, in autumn ripening, turning brown, and opening. *R. ſyn.* — So minute as hardly to be viſible if it did not grow in patches; from 2 to 3 lines high. *Capſules* in the terminating roſes, ſitting, the ſize of a poppy ſeed, yellow. *Lid* beaked. WEIS. — *Shoots* not branched. *Veil* covering the capſule, conical, ſcored, blunt, of ſhort duration. NECK. — In a rich ſoil ſometimes half an inch high, and with 2 or 3 branches towards the top. *Barren* flower in the boſom of the leaves. *Lid* none. HEDW.—Only 3 or 4 lines high, but growing in patches is readily found, and the Capſules not larger than a ſeed of tobacco, are very viſible on account of the thinneſs of the leaves. DILL.

Heaths in a ſandy ſoil; ditch banks. [Near Bungay, Suffolk. Mr. STONE.] A. March—Aug.

alternate leaved PHAS'CUM *alternifo'lium.* Fertile ſtems ſhort. Barren ſtems taller, upright. Leaves alternate awl-ſhaped. DICKS.

Dickſ. i. 2.

Barren and *fertile ſtems* growing intermixed, and forming ſmall green tufts. BARREN SHOOTS undivided, thread-ſhaped, half an inch and more high. *Leaves* very ſhort, awl-ſhaped, alternate, rather hunched at the baſe, expanding at the ends. FERTILE SHOOTS undivided, 1-8th of an inch high. *Leaves* awl-briſtle-ſhaped, as long again as the capſule. *Capſule*, one at the end of each ſhoot, ſingle, ſitting, buried in the leaves, inverſely egg-ſhaped, pale yellow. DICKS.

Bogs. [Gamlingay Bogs, Cambridgeſhire. Mr. GRIFFITH.] April.

ſhining PHAS'CUM *nit'idum.* Leaves awl-ſhaped, keeled, ſomewhat bundled. HEDW. *ſtirp.* i. 91.—With a ſtem. Capſules on fruit-ſtalks juſt riſing above the leaves. DICKS. 2.

Hedw. ſtirp. i. 34.

Exceedingly ſmall; about 1-8th of an inch high, upright, ſometimes ſending out one or two branches at the baſe. *Leaves* ſlender, briſtle-ſhaped, ſurrounding the ſtems, and riſing above the ends. *Capſules* egg-ſhaped, taper-pointed at the end, on ſhort fruit-ſtalks, ſometimes from the ſides of the ſtem and boſom of the leaves, but moſtly terminating, ſolitary, or in pairs, naked or diſtinct, though the leaves extend beyond them, when ripe browniſh. DICKS.

P. axillare. Dickſ. i. 2; and ii. 27.

Bogs on heaths. Sept.

hairy PHAS'CUM *pilif'erum.* With a ſtem. Leaves oblong, with hairs at the ends, upright. SCHREB. *phaſc.* 8.—Capſules on fruit-ſtalks. DICKS. ii. 1.

Schreb. phaſc. i. 6 *to* 10.

Leaves curling up in drying. DICKS.

In poor graſs land near London. DICKS.

creeping PHAS'CUM *re'pens.* Stem creeping. Capſules on the ſides of the branches, ſitting.—

Dill. 85. 16.

Stems

Stems creeping, adhering to the bark of trees. *Branches* ſhort, cylindrical, moſtly in pairs. *Capſules* extremely ſmall; in the boſom of the leaves. DILL.

Trunks of trees in Yorkſhire. DILL. P. May.

1306. FONTINA'LIS. Watermoſs.

ESS. CHAR. *Capſule with a lid. Veil ſitting, incloſed by the Empalement.*

OBS. Differing from HYPNUM in nothing but the Capſule not being ſupported on a fruit-ſtalk. WEIS.

FONTINA'LIS *antipyre'tica*. Leaves between folded and keeled, in 3 rows; pointed. Capſules on the ſides of the branches.— *greater*

Dill. 33. 1.—*Vaill.* 33. 5.—*H. ox.* xv. 6. 32.—*Buxb.* iii. 69. 2.—*Mich.* 59. 9.—*Hedw. hiſt.* i. 5. 27; ii. 9. 53; 54, 55, *and* 1. 5.

Shoots a foot long or more, branched. The primary ſhoot ſends out lateral and terminating ones, and theſe branch out again. NECK. —Floating in the water. *Leaves* two or three lines long, and half as broad, very entire at the edge. *Capſules* lateral, in the boſom of the leaves, on very ſhort fruit-ſtaks, incloſed in a leafy ſcaly fence. *Veil* conical. *Lid* conical, blunt, ſtarting with a ſpring from the ripe capſule. *Fringe* ſurrounding a central point. *Seeds* green.

Upon rocks and roots of trees, in brooks, rivulets, ſlow ſtreams and ponds. P. June—Sept.

The Scandinavians line the inſide of their chimnies with this to defend them againſt the fire, for contrary to the nature of all other Moſs, this is hardly capable of burning.

FONTINA'LIS *mi'nor*. Leaves egg-ſhaped; concave; pointing three ways; pointed; always in pairs. Capſules terminating.— *leſſer*

Dill. 33. 2.

Leaves between folded and keeled, on the thicker branches in pairs. LINN. — Shoots 4 inches long, in rapid ſtreams half a yard or more, very much branched. *Branches* 3-ſided, ending in a ſharp point. *Capſules* egg-ſhaped, on ſhort fruit-ſtalks. WEBER. —*Shoots* ſhorter, more branched, and leaves ſmaller, thicker and blunter than in the *F. antipyretica*. DILL.

Banks of the Thames on the walls of Lambeth palace, and on the banks of the Iſis at Oxford. DILL. P. Aug.—Oct.

ſcaly FONTINA'LIS *ſquamoſa*. Leaves tiled; awl-ſpear-ſhaped. Capſules on the ſides of the branches.—*Hedwig. ſtirp.* 3. 12.—*Dill.* 33. 3.—*J. B.* iii. 778. 3.

Leaves ſometimes ſpear-ſhaped, pointed. Very nearly allied to *F. antipyretica*. HUDS.—*Capſules* egg-ſhaped, ſitting. NECK.—Long and ſlender; *fertile* ſtem generally forked; *barren* ſtem more branched; 4 to 6 inches long. *Leaves* long, ſpear-ſhaped, partly embracing the ſtem, ſo ſlender as to appear awl-ſhaped to the naked eye. HEDWIG.—*Shoot* 4 to 12 inches long, branched, floating in the direction of the ſtream, ſlender, black, bare near the root. *Leaves* dark green, ſmooth, ſhining, black when dry. *Branches* 3-ſided. *Capſules* on the ſide of the branches ſitting, egg-ſhaped, immerſed in a leafy empalement. DILL.

Mountainous rivulets in Wales, North of England, Highlands, and Weſtern Iſles. P. June—Oct.

feathered FONTINA'LIS *pinna'ta*. Leaves pointing 2 ways; expanding. Capſules on the ſides of the branches.—*Hedwig. ſtirp.* 3. 19.—*Vaill.* 27. 4.—*Hall. enum.* 3. 2, *at p.* 109, *repr. in hiſt.* 46. 2, *at* iii. *p.* 56.—*Dill.* 32. 9.

Leaves with wavy wrinkles. *Capſules* ſitting; nearly cylindrical. NECK.—*Shoots* creeping and forming compact patches. *Branches* one inch long, or more. *Leaves* cloſely compacted, about a line in length, and one fourth of a line in breadth. *Capſules* ſolitary, or in pairs, chiefly on one ſide the branches, one line long and half as broad, ſmooth, green, changing to reddiſh. *Mouth* without a ring, cloſed with a white fringe. *Lid* pointed. *Veil* but half the ſize of the capſule; ſmooth. *Empal.* compoſed of ſpear-ſhaped, pointed, ſhining leafits, taller than the capſule and cloſely embracing it. POLLICH.—*Stem* thread-ſhaped, rigid; branches in oppoſite directions, decumbent with age. *Leaves* without veins. HEDWIG.

Trunks of trees in the woods about Troutbeck and Ambleſide, Weſtmoreland. P. Aug.—Oct.

hair-like FONTINA'LIS *capilla'cea*. Leaves ſtrap-briſtle-ſhaped, LINN. *fl. ſuec.*—pointing one way, thoſe of the receptacle very long, convoluted, awl-ſhaped. DICKS. ii. 1. *Dill.* 33. 5.

Leaves crowded, channelled, in no regular order. *Fruit-ſtalks* furrowed and twiſted. *Capſules* oblong. SCOP.—*Shoots* 5 to 7 inches long. *Branches* ſometimes divided. *Empal.* long, from the boſom of the leaves, chiefly where branches ariſe; out of theſe come forth, *Capſules* green, ſmall, egg-ſhaped. DILL.

Mountain rivulets in Scotland.

FON-

FONTINA'LIS *alpi'na.* Leaves moſtly pointing one way, elliptical bluntiſh, thoſe of the empal. ſpear-ſhiped, pointed. DICKS. ii. 2. *alpine*

Dickſ. ii. 4. 1.

Leaves ſhort, twiſted when dry, ſomewhat curled. *Capſule*, together with the empal. thrice as large as the leaves. DICKS.

On rocks and ſtones in the alpine rivulets of Scotland.

1307. BUXBAU'MIA.

Barren Flower on a fruit-ſtalk.

EMPAL. *Veil* conical, falling off.

CAPS. oval, hunched on one ſide, membranaceous on the other; mouth fringed and plaited, covered with a lid. *Lid* conical, perforated at the baſe, and within it hangs ſuſpended by a fine *thread*, the true *tip*, which is lopped at the baſe, and contains duſt.

RECEPT. Scaly bulb, none.

ESS. CHAR. *Capſule with a lid, membranaceous on one ſide. Veil falling off. Within the lid a ſac containing duſt.*

BUXBAU'MIA *folio'ſa.* Stemleſs. Capſule nearly ſitting, ſurrounded with leaves.— *leafy*

Hedwig. theor. 10. 23 *to* 31; 11. 32 *to* 34; *hiſt.* 9. 51.—*Schmidel. buxb.* 2, *or rather the lower part of the plate, conſiſting of the figures diſtinguiſhed by roman numerals.—Hall. enum.* 3. 3, *at p.* 109; *repr. in hiſt.* 46. 3, *at* iii. *p.* 56.—*Dill.* 32. 13.—*Fl. dan.* 249. 1, *ill cop. in Happ.* ii.—*Phaſcum* 1, *the central plant.—Hall. it. helv.* 2. 3, *in opuſc. at p.* 308.—*(Fl. dan.* 249. 3, *is P. acaulon.)*

Leaves of the empal. awned. WILLDENOW.—*Leaves*, the lowermoſt open, oblong, the uppermoſt upright, ſpear-ſhaped, taper-pointed. *Capſule* ſitting. HUDS. 466.

Phaſcum montanum. HUDS.

On earth upon rocks near Llanberris in Caernarvonſhire, DILL. 253.—and on Hart-fell mountain near Moffat. SHEFFIELD *in Hudſ.* —In the Highlands and Lowlands. LIGHTF. 693.

A. Sept. Oct. DILL.—May—Aug. HUDS.

1308. SPLACH'NUM. Bottlemoss.

Ess. Char. *Capsule sitting, on the summit of a large coloured scaly bulb. Veil deciduous. Stars on a distinct plant.*

purple SPLACH'NUM *ampulla'ceum.* Receptacle bottle-shaped, inversely conical.—

1. Fertile plant. *Hedwig. stirp.* ii. 14; *hist.* 7. 33.—*Fl. dan.* 822.—*Dill.* 44. 3.—*Vaill.* 26. 4.—*H. ox.* xv. 6. 10.—*Buxb.* ii. 1. 1, *is this plant, though referred by Linnæus to S. vasculosum, as Muller and Hedwig both remark.—Hedwig doubts of the references to Dill. Vaill. and H. ox.*

May it not be a mere variety of *Mnium fontanum? Leaves* pointed, *Receptacle* empty, transparent, an extension of the fruit-stalk. Linn.—*Stem* short. *Fruit-stalk* an inch or more in length. *Veil* short, triangular, shining. Haller.—*Stem* single or forked, from one to two inches high, upright, but feeble, and supported by other collateral stems. *Leaves* spear-shaped, acutely pointed. Chives and Pointals on the end of the same shoot. *Veil* bell-shaped. *Capsule* slender, cylindrical, upright. *Receptacle* large, shaped like an inverted decanter. *Lid* convex. *Fringe* single, of 8 pair of teeth. Hedwig.

2. Barren Plant? *Fl. dan.* 822, *the lowermost figure on the left hand.*

Turfy bogs, but only where the dung of animals has fallen. Linn.—Bogs and marshes, and often upon cow-dung. Lightf.—Bogs about Hitchin Ferry near Southampton, and by W. Wickham, and Addington near Croydon. R. *syn.*—Flowers in May, ripens its capsules in July. P. Hedwig.

[Geldestone Fen near Bungay, Suffolk. Mr. Stone.]

A. March—May.

acorn-shaped SPLACH'NUM *vasulo'sum.* Receptacle bottle-shaped, somewhat globular.—

Hedw. stirp. ii. 15.

Like *S. ampullaceum*, but in that species the receptacle is more top-shaped and yellower; in this nearly globular and blood-coloured. *Leaves* egg-shaped, pointed. Very nearly allied to *Mnium annotinum.* Linn.—*Barren* stems 2 inches, fertile ones one inch long, upright, unbranched. *Leaves* spatula-shaped, bluntish, alternate, distant. *Fruit-stalk* one and a half inch, upright, red. *Receptacle* large, pear-shaped, blood red. *Capsule* cylindrical, upright, browniish yellow. *Fringe* simple, composed of 8 teeth, in pairs. Hedwig.

Phascum

Phaſcum pedunculatum, Huds. ed. i. adopted by Linnæus.

Upon bogs and cow-dung, and on the points of rocks on the tops of the Highland mountains, as Ben Lomond, and in the Iſle of Sky, and elſewhere. Lightf. 697.—On Scarbrae Moſs in the pariſh of Kirkmichael. Dr. Burgess.—On mountainous moiſt heaths in Yorkſhire, Weſtmoreland, and Wales.

A. June—Oct. Huds.—P. Hedwig.

SPLACH'NUM *urcola'tum*, Hedwig. *ſtirp.* ii. 39, miſprinted 37.—With a ſtem. Leaves tiled, egg-ſhaped, concave, with briſtles at the end. Receptacle inverſely conical, thickening. Dicks. *pitcher-ſhaped*

Hedwig. ſtirp. ii. 13.

About one inch high, ſimple or forked, one fruit-ſtalk on each branch. *Leaves* ſpoon-ſhaped. *Fruit-ſtalk* upright, near an inch high. *Receptacle* an inverted cone. *Capſule* egg-ſhaped, cylindrical when old. *Lid* conical, blunt. *Fringe* of 8 teeth, in pairs, orange-coloured. Hedwig.

Highlands of Scotland. On Ben High. P.

SPLACH'NUM *ten'ue*. With a ſtem. Leaves egg-oblong, pointed. Receptacle inverſely conical, tapering. Dicks. ii. 2. *ſlender*

Dickſ. 4. 2.

Approaches very near to *S. urceolatum*, from which it differs in the habit of its leaves, its ſlender and almoſt cylindrical receptacle. Dicks.

On Ben Lawers in the Highlands.

SPLACH'NUM *ſphæ'ricum*. Receptacle globular. Linn. the Son. *meth. muſc.* 33. *ſpherical*

Hedwig. ſtirp. ii. 16.

Fruit-ſtalk very long, greeniſh and reddiſh brown. *Capſule* very ſmall. *Lid* blunt. *Receptacle* green. Linn. the Son.—*Stem* upright, hardly one inch high, ſeldom branched. *Leaves* diſtant, alternate, ſpoon-ſhaped but tapering to a point. *Fruit-ſtalk* very long, (3 or 4 inches,) upright, terminating, tawney at bottom, green above. *Receptacle* large, globular, green. *Capſule* cylindrical, blunt. *Lid* blunt. *Fringe* 8 teeth in pairs, yellowiſh. Hedwig.

Mountains near Stirling. Dr. Buchanan *in Dickſ. p.* 3.

SPLACH'NUM *breweria'nium*. Leaves ſpear-ſhaped, very entire. Barren and fertile flowers on diſtinct branches. Hedw. *ſtirp.* ii. 106. *Brewer's*

Hedw.

Hedw. ſtirp. ii. 38.—*Dill.* 44. 5.

Original ſtem hardly more than an inch long, but branching out ſhoot upon ſhoot to ſeveral inches. *Fruit-ſtalk* about one inch long, upright. *Receptacle* egg-ſhaped, lopped. *Capſule* cylindrical. *Lid* ſhort. *Ring* none. *Mouth* fringed with 16 ſharp red teeth. *Veil* ſmall. HEDWIG.—Crowded together. Stems ſlender, nearly covered to the top with dead leaves. Upper leaves narrow, pellucid, dilute green, ſides bent in. *Fruit-ſtalk* terminating, reddiſh. *Capſule* dark purple red. DILL.

Moiſt heaths near Llyn Dwythwch, always on rotten cow dung. BREWER *in Dill.* 345. Oct.—Jan. P.

narrow SPLACH'NUM *anguſta'tum.* With a ſtem. Leaves with hairs. Fruit-ſtalk very ſhort. LINN. THE SON.

Hedw. ſtirp. ii. 12.

Upright, not branched, near one inch high. *Leaves* larger towards the top of the plant, ſometimes a little toothed towards the end. *Fruit-ſtalk* hardly riſing above the leafy Empalment. *Capſule* cone-ſhaped, but lopped, leaning a little. *Mouth* fringed with 8 teeth, in pairs. *Veil* oblique. HEDWIG.

In moiſt alpine ſituations in Scotland. DICKS. ii. 3. P.

ſlender SPLACH'NUM *mnioi'des.* Almoſt ſtemleſs. Receptacle oblong. LINN. THE SON, *meth. muſc.* 6.

Hedw. ſt. ii. 11.—*Fl. dan.* 192.

Fertile ſhoots upright, undivided. *Barren* ſhoot generally branched. *Leaves* very entire, ending in a long point. *Fruit-ſtalk* upright, terminating, about half an inch long. *Capſule* upright, egg-ſhaped. *Receptacle* an inverted cone. *Lid* flat, bluntly pointed. *Fringe* of eight teeth, broad, united. *Veil* ſlender. HEDWIG.

Phaſcum pedunculatum. Hudſ. ed. I. Linn. ſyſt. veg. according to Hedw. but not ſo according to Dickſ. I. 2.

Mountainous places. DICKS. I. 2. P.

egg-ſhaped SPLACH'NUM *ova'tum.* Stemleſs. Leaves ſpear-egg-ſhaped, pointed. Receptacle inverſely egg-ſhaped.—

Dickſ. ii. 2.—*Dill.* 44. 4.—*Ray* 3. 2, *at p.* 128.

Leaves broad, ſhining. *Fruit-ſtalks* golden yellow. DILL.—A different plant from the Splachnum *vaſculoſum.* Linn. to which Hudſ. had improperly referred. DICKS. I. 2.

Rotten ſpongy ground, as in the paſtures called Emott Moor, Lancaſhire. Alſo in Montgomeryſhire. DILL.—On Ben Nevis. DICKS.

1309. POLY'TRICHUM, Hairmoſs.

Ess. Char. *Capſule with a lid, ſitting on a very ſmall excreſcence. Veil woolly. Stars on a diſtinct plant.*

Obs. Mr. Curtis has detected an inner membranaceous veil within the other; but ſmaller, *Fl. Lond.*

POLY'TRICHUM *commu'ne*, Stem ſimple, common Capſule a long ſolid ſquare.—

Hedw. hiſt. i. 9. 62, 63, 64; ii. 7. 37.—*Dill.* 54. 1.—*Happ.* i. *Polytrich.* 1.—*Mich.* 59. 1. *I, E, M, O, P, Q, R.*—*Blackw.* 375.—*Vaill.* 23. 8.—*Ger.* 1371. 3.—*Garſ.* 129.—*Fuchſ.* 629. 1, *cop. in Trag.* 528. 1, *J. B.* iii. 760. 1, *Lon.* i. 222. 3, *and Dod.* 475. 2, *which repr. in Ger. em.* 1559, *the right hand fig. of the* 3 *lowermoſt, and imit. in Barr.* 251. 3.—*Trag.* 946, *the talleſt of the figures, riſing from a bed of Hypnum ſericeum.*—*Park* 1052, *the right hand fig. of the two uppermoſt.*—*Lob. obſ.* 645. 2, *repr. in ic.* ii. 245, *and Ger. em.* 1559. 2, *barren plants.*—*Ger.* 1370. 2, *cop. in Park.* 1307. 3, *barren plants.*

Stems ſeveral inches high, ſeldom branched. *Leaves* near half an inch long, ſlender, pointed, turning back, finely ſerrated. *Fruit-ſtalks* terminating, ſolitary, two to four inches long, ſurrounded by a fence at the baſe. *Capſule* 4-ſided; mouth fringed. *Veil* very hairy, hanging down below the Capſule, ragged. Weis.—From 4 to 12 inches high, ſtiff, ſtraight. *Fruit-ſtalk* golden red. *Veil* tawney. Dill.

Great golden Maidenhair, or Goldilocks.

Woods and moors in wet boggy places. P. May, June.

When the Laplanders ſleep all night in the woods, they make themſelves beds of this moſs; and the bears collect it for the ſame purpoſe. Squirrels and birds uſe it in making their neſts.

β Linn. Leaves ſhorter and leſs flexible. Dill.

Dill. 54. 2.—*Vaill.* 23. 6.—*Fl. dan.* 295.—*H. ox.* xv. 7. 6 *and* 8.—*Lob. ic.* ii. 243. 1, *repr. in Ger. em.* 1563. 14, *and cop. in Park.* 1308. 9.

Shoots much ſhorter than (α) and moſtly branched. Weis.—*Veil* double, the outer one hairy, the inner one much ſmaller, white, ſmooth, membranaceous. Leers.—*Leaves* ſharp-pointed, very entire. *Fruit-ſtalks* two inches long. Pollich.—Whole plant ſmaller than the preceding, except the *Veil*, which is larger and more pyramidal. *Stem* ſeldom more than one inch high, ſeldom branched. Dill.

On

On hills, dry or wet. P. May, June.

γ Linn.—Leaves terminating in hairs.

Happ. i. *Polytr.* 2.—*Dill.* 54. 3.—*Vaill.* 23. 7.—*Buxb.* i. 62. 3, *a barren plant.*

Stems not more than half an inch long, ſimple, leafleſs below. *Leaves* entire at the edges, ending in grey hairs. *Fruit-ſtalk* terminating, about one inch long. Weis.—*Fruit-ſtalks* half inch an high, or a little more. *Capſule* with its veil, two lines long, and one broad. Pollich.—*Leaves* bent inwards a little, not ſerrated, terminating ſuddenly in a long whitiſh hair. *Fruit-ſtalks* and their ſheathing empalement purple, Dill.

Dry woods and ſandy barren heaths. Winter,

dwarf POLY'TRICHUM *ſubrotun'dum*. Stem ſimple, Capſule roundiſh. Huds.

Mnium Polytrichoides. Linn.

α *Hedw. ſtirp.* I. 13.—*Curt.* ii. 17.—*Dill.* 55. 6.—*H. ox.* xv. 7. *row* 2. 7.—*Pet. muſ. f.* 22.—*Vaill.* 26. 15, *veil wanting.*

Veil open, larger than the capſule. Linn.—*Leaves* obſcurely ſerrated. *Capſules* roundiſh, nodding. Hedwig.—*Shoots* ſtemleſs. *Leaves* with a membranaceous appendage at the baſe. Neck.—*Leaves* not ſerrated. *Fringe*, rays 32.

Polytrichum polytrichoides. Huds. 470. Pol. nanum. Hedwig.

Heaths. Muddy ſoil. [Spink's Grove in a dry ditch. Mr. Stone. [Commons about Kinver in large patches. With.] P. May.

β Leaves evidently ſerrated at the ends. Capſule cylindrical, leaning. Hedwig.

Hedw. ſtirp. i. 14.—*Dill.* 55. 7.—*Buxb.* i. 63. 1.—*Vaill.* 29. 11.

Stem near half an inch high, ſeldom branched. *Fruit-ſtalks* growing to the length of an inch, fixed rather below the top of the ſtem. *Capſule* cylindrical, upright, but leaning as it becomes older. *Veil* larger than the capſule, irregular, very hairy. *Barren ſhoots* terminating in roſes, hairy in the center. Weis.—*Shoots* proliferous when old. *Leaves* ſerrated. *Capſule* whitiſh when ripe. *Fringe*, rays 32. *Receptacle* none. I ſuſpect it to be merely a young variety of Polytrichum *urnigerum*. Leers.—*Stem* ſhort, ſcarcely riſing from the ground. *Leaves* thickiſh, ſhort, ſtiff. *Fruit-ſtalks* reddiſh. *Veil* woolly, open at bottom. *Capſules* ſea green, ſhort, turgid. Dill.

Polytrichum nanum. Huds. 470. Pol. aloides. Hedwig.

Heaths. Muddy ſoil. [Near Spink's Grove. Brome, near Bungay, Suffolk. Mr. Stone.—Edgbaſton Plantations. With.] P. March—July.

POLY'TRICHUM *hercyn'icum*. Capſule upright, pitcher-ſhaped. Veil with ſcattered hairs. HEDW. *ſtirp.* i. 40. DICKS. *hercynian*

Hedw. ſtirp. i. 15.

Stem upright, undivided, an inch long. *Leaves* ſtrap-ſhaped, keeled, very entire, bowed in, alternate, nearly upright, pointed, naked. *Fruit-ſtalk* terminating, ſolitary, upright, an inch long. *Veil* conical, pointed, pale. *Capſule* upright, oblong, or cylindrical, the mouth between toothed and fringed. *Lid* conical, ſomewhat pointed. HUDS.—*Mouth* fringed with 32 ſhort teeth, connected at the baſe. HEDWIG.

Bryum incurvum. HUDS.

Paſtures and rocks about Llanberris. Mr. DAVIES.—In the Highland mountains. DICKS. P. June—Oct.

POLY'TRICHUM *alpi'num*. Stem very much branched. Fruit-ſtalks terminating.— *alpine*

Dill. 55. 4.—*Hall. enum.* 3. 6, *at p.* 109, *repr. in hiſt.* 46. 6, *at* iii. *p.* 56.—*Fl. Dan.* 296.

Shoots from one half to two inches long; very much branched. *Leaves* ſlightly toothed. *Capſules* egg-ſhaped, leaning when ripe. *Lid* conical, beaked. *Mouth* with a ring; fringe fine, ſhort, upright, white. WEBER.—*Capſules* unequally diſtended, green, blackiſh when old. *Lid* ſaffron-colour, its point white. DILL.

Mountainous heaths in the North of England, and mountains of Wales and Scotland. P. June—Aug.

β HUDS.—*P. urnigerum*, which ſee.

POLY'TRICHUM *urnig'erum*. Stem very much branched. Fruit-ſtalks from the boſom of the leaves.— *urn-headed*

Dill. 55. 5.—*Vaill.* 28. 13.—*Fl. dan.* 297.

Capſules when ripe nodding. LINN.—When young the ſhoots unbranched, and ſtellated at the ends, with terminating fruitſtalks when older; 2 or 3 inches high, with lateral branches, ſomewhat forked, riſing to nearly an equal height. *Fruit-ſtalks* lateral, two or three inches high. *Empal.* red. *Capſule* cylindrical egg-ſhaped, tawney, upright, leaning as it ripens. *Lid* yellow, beak white. *Mouth* with a ring, and covered by a white membrane. *Fringe*, rays 32. *Receptacle* none, *Barren ſhoots* unbranched, 2 inches high, ſtellated at the ends. LEERS.—*Leaves* tooth-ſerrated. *Capſules* cylindrical. WEBER.

At the foot of Cader Idris. DILL.—Highland mountains and Pentland Hills. LIGHTF. P. June—Aug.

1310. MNI'UM. Marſhmoſs.

Ess. Char. *Capſule with a lid. Veil ſmooth. Barren Flowers in a ſmall head, naked, powdery, at a diſtance from the fertile Flowers.*

Oſmund MNI'UM *oſmunda'ceum.* Leaf ſimple, upright, with winged clefts, bearing fruit at the end. Wings in two rows, ſpear-ſhaped, very entire. Dicks. I. 3.

Hedw. ſtirp. i. 29.—*Dickſ.* 1, 4.

Stems, or rather leaves, naked towards the baſe, half an inch long, and of two kinds, barren and fertile, but both naked at the baſe. *Barren Stems* with winged clefts, wings ribleſs, united at the baſe as in *Oſmunda Spicant*. *Fertile Stems*, ſome ſtarlike, ſome bearing capſules, very ſlender and bright green. *Leaves* diſtinct, egg-ſpear-ſhaped, pointing from 2 oppoſite lines. *Fruit-ſtalks* very ſlender, green, 1-8th of an inch long, from the end of the ſtem, out of an *empal.* reſembling that of the barren flower. *Capſule* upright, very ſmall, roundiſh, green, and after the falling off of the lid lopped. *Veil*, none obſerved. *Lid* very blunt, reddiſh. *Fringe* naked. Dicks. —*Veil* falling off, entire. Hedwig.

Hollows in ditch banks under old hedges, in a rich ſoil on the road from Zele to S. Tawton, 4 miles from Okehampton, Devonſhire. Mr. Newberry *in Dickſ.* March, April—June. B.

pellucid MNI'UM *pellu'cidum.* Stem ſimple. Leaves egg-ſhaped.—

Schmid. 3.—*Fl. dan.* 300, *a ſingle barren plant.*—*Hedw. hiſt.* ii. 7. 32, *a capſule.*—*Dill.* 31. 2.—*Hall. enum.* 4. 8, *at p.* 118; *repr. in hiſt.* 45. 8, *at* iii. *p.* 41, *a fertile plant.*—*Vaill.* 24. 7, *a fertile plant, leaves too much awl-ſhaped.*

Barren plant, ſtalk coloured, cylindrical. *Leaves* ſhining, expanding. *Fertile plant* bearing capſules; leaves more ſlender. Neck.—*Shoots* an inch long, ſeldom branched. Leaves in 4 rows; mid-rib purple, ending in a point. *Fruit-ſtalks* terminating, an inch long, pellucid, whitiſh. *Capſules* cylindrical, yelloviſh. *Veil* very long. Weis.

Woods. Moiſt ſhady places, and decayed roots of trees.

A. Jan.—July.

β Huds.—Leaves exceedingly narrow, and pellucid.—*R. ſyn. p.* 78. *n.* 5.

Dill. 31. 2. *E. F.*

Heaths near Woolwich. Mar. *R. ſyn.*

MNI'UM *androg'ynum.* Stem branched. Barren and fertile flowers on the ſame plant.— *upright*

Fl. dan. 299, *cop. in Happ.* ii. *Mnium* 5.—*Hedw. hiſt.* i. 6. 33 *to* 36; *theor.* 12. 48, 49, 50.—*Dill.* 31. 1.—*Vaill.* 29. 6.—*Mich.* 59. 8. *H, K, e.*—*Neck. meth.* 1. 4, *a head of barren flowers.*—*H. ox.* xv. 7. *row* 2. 20.

Grows in denſe patches; better than half an inch high. *Empal.* none. *Fruitſtalks* terminating. POLLICH.—Very minute. *Leafits* ſhort, upright. *Capſule* leaning. REYG.—Oblong. SCHOLL.—*Barren flowers* terminating, globular, on fruit-ſtalks only half the length of thoſe bearing capſules. WITH.—From one half to near 2 inches high, generally branched, nearly upright. *Leaves* not crowded, ſhort, very narrow, pale green, pointed. DILL.

Woods, heaths, and walls, and roots of trees in moiſt ſandy woods, dry ſhady banks by the ſides of heaths. A. March, April.

MNI'UM *fonta'num.* Stem undivided; crooked at the joints. *fountain*

Dill. 44. 2.—*Vail.* 24. 10.—*Fl. dan.* 298, *cop. with additions in Happ.* iii. 7.—*H. ox.* xv. 6. *row* 3. 8.—*Mich.* 59. 4.—*Pluk.* 47. 2.

Bryum fontanum. Hudſ.

The old ſhoots covered with brown knap, and buried 3 inches deep. From theſe proceed ſlender, cylindrical ſhoots, ſome of which end in ſtars. *Fruit-ſtalks* 2 inches long; proceeding from the ſhoots of the preceding year. NECK.—Readily known by its ſtiff habit. *Shoots* 2 to 4 inches long. *Fruit-ſtalks* reddiſh. WEIS.—*Capſules* egg-ſhaped; leaning. WITH.—*Leaves* ſerrated, open, in the young ſhoots moſtly pointing one way. In this ſpecies and alſo in the Mnium *paluſtre*, the fertile and barren ſhoots adhere ſo cloſely at bottom as to appear but one plant. LEERS.

[Low wet meadows, turf bogs, and ſprings, Earſham. Near Bungay, Suffolk. Mr. STONE.] P. May—Auguſt.

MNI'UM *paluſ'tre.* Stem forked. Leaves awl-ſhaped. *common*

Dill. 31. 3.—*Vaill.* 24. 1.—*H. ox.* xv. 6. *row* 3. 9.

Stems upright. *Fruit-ſtalks* yellow, REYG.—often 2 inches long, RELH.—from the forks of the ſtem. NECK.—Crowded. *Stems* upright, 2 to 5 inches high; moſtly 2, ſometimes with 3 diviſions. *Leaves* ſlender, ſoft, pellucid, keeled, yellow green, yellow when dry. DILL.—*Stems* 2 or 3 inches high, branching towards the top into 2, 3, or 4 ſhoots. *Leaves* lower ones downy. *Summit-leaves* flat, large, forming ſtars, in which are the barren flowers. *Fruit-ſtalks* from

from the tops of the laſt year's ſhoots, which now likewiſe ſupport new ſhoots. *Capſules* leaning. WITH.

Turf bogs and wet heaths, marſhes and moors. [Near Bungay, Suffolk. Mr. STONE.] P. June, July.

β Stem branched, upright. Fertile fruit-ſtalks from the boſom of the leaves. HUDS.

Dill. 31. 4.

Stem ſometimes ſimple. DILL. 236.—*Fertile Flowers* not diſcovered. DILL. *in R. ſyn.* 78. *n.* 3.—Smaller than the preceding. *Fruit-ſtalks* from the boſom of the leaves, numerous, not terminating in capſules, but in ſmall globular heads containing duſt. Seems to be the *chive*-bearing or barren plant. WITH.

M. ramoſum. Hudſ. ed. i. 403.

yellow MNI'UM *hygrometr'icum.* Without a ſtem. Capſule nodding. Veil 4-edged, bent back.—

Dill. 52. 75.—*Hedw. hiſt.* i. 5. 21 *to* 26; ii. 10. 58 to 61, *parts of fructification*; 3. 11; 5. 25, 26; 6. 27, *ſeedling plants.*—*Vaill.* 26. 16.—*H. ox.* xv. 7. 17.—*Happ.* i. *Mnium* 2.—*Fuchſ.* 629. 2, *cop. in Trag.* 528. 2, *J. B.* iii. 760. 2, *Lon.* i. 222. 4, *and Dod.* 475. 1, *which repr. in Ger. em.* 1559. 4, *the middlemoſt of the* 3 *lower figures; and cop. in Park.* 1052, *the left hand of the* 2 *upper figures.*—*Fl. dan.* 648.—*Ger.* 1371. 4.

Capſule turban-ſhaped. *Leaves* egg-ſhaped, approaching. HUDS.—Forming tufts. *Empal.* bulboſe. *Fruit-ſtalks* bent by the weight of the capſules. NECK.—Forming extenſive patches. *Stem* one or two inches high, but moſtly buried in the earth. *Fruit-ſtalk* a full inch long, purple below, paler above. *Capſule* pear-ſhaped, gold-coloured. *Veil* bent aſide. *Ring* ſcarlet. *Seed* yellow. WEIS.—*Veil* 4-cornered. *Leaves* hairy at the end. SCOP. — This Moſs may be found in December, very ſmall, cloſe to the ground, the leaves very fine, from the middle of which projects the young fruit-ſtalk like the point of a pin. In January the 4-ſided veil appears, of a ſtraw-colour; in February and March the capſules are formed, which ripen in April and May. *Leaves* tender, pellucid, without veins. *Roots* black, hair-like. DILL.

Bryum hygrometricum. HUDS.

Common in woods, heaths, garden walks, walls, old trees, decayed wood, and where coals or cinders have been laid.

A. March—June.

If the fruit-ſtalk is moiſtened at the baſe with a little water or ſteam, the head makes 3 or 4 revolutions; if the head is moiſtened it turns back again. LINN.

MNI'UM *purpu'reum.* Stem forked. Capſules upright. Fruit-ſtalks from the forks of the ſtem. Leaves keeled.— *purple*

Dill. 49. 51.—*Hedwig. hiſt.* ii. 4. 17, *a lid.*—*H. ox.* xv. 6. *row* 4. 4, *ſome of the fruit-ſtalks terminate the branches.*

Grows in very denſe patches. *Stem* upright, moſtly forked, and theſe ſhoots ſometimes dividing again. *Leaves* ſpear-awl-ſhaped, in ſome ſhoots forming terminating ſtars. *Fruit-ſtalks* an inch high, at firſt upright, afterwards a little leaning. *Lid* conical, pointed, ſcarlet. *Veil* upright afterwards oblique. WEIS.

Bryum purpureum. HUDSON and LIGHTFOOT.

Walls, heaths, rocks, and gravelly banks and paſtures. April.

β HUDS.—Leaves few and narrow.

Dill. 48. 49.

At firſt ſlender, not branched, fruit-ſtalks terminating; when older becoming branched, and fruit-ſtalks from the forks of the branches; reddiſh, ſhort, ſlender. DILL.

Looſe ſandy ſoil; gravelly paſtures. March.

γ HUDS.—Leaves leſs rigid; ſpear-ſhaped.

Dill. 49. 52.

Leaves ending in hair-like points. *Capſule* finely pointed. DILL.

On Emott Moor on the borders of Lancaſh. and Shobdon Marſh, Herefordſhire. June.

MNI'UM *cirrha'tum.* Leaves rolling back in drying.— *ſtarry*

Dill. 48. 42.—*Vaill.* 24. 8.—*Fl. dan.* 538. 4.—*(H. ox.* xv. 7. 19, *is Bryum ſimplex.)*

Shoots branched, the young ones with ſtars at the end, the older with fruit-ſtalks at the forks. *Leaves* ſtrap-ſhaped. NECK.—*Capſules* upright, egg-ſhaped. Bryum *cirrhatum.* HUDS.—Grows in large denſe patches. In many reſpects reſembling the Bryum *convolutum*, but it is more branched, the branches more expanded, the leaves longer, not preſſed to when dry, but rolled back. *Fruit-ſtalks* from one half to one inch, the young ones terminating, the older from the forks of the branches. *Lid* reddiſh, pointed, very ſlender, readily falling off. *Mouth* with a ſhort fringe. WEIS.

Woods, mountainous heaths, walls, and hedge banks.

P. March—July.

β HUDS.—Fruit-ſtalks and Capſules numerous and ſhort.

Dill. 48. 41.

Snowdon. Aut. DILL.

Bryum cirrhatum β HUDS.

γ HUDS.—Leaves much ſmaller than in β. R. *ſyn.* 98. *n.* 34.

Bryum cirrhatum. HUDS. γ

MNI'UM

long-leaved MNI'UM *anno'tinum.* Leaves egg-ſhaped, tapering to a point; tranſparent. Fruit-ſtalks from near the root. Capſules pendant.—

Dill. 50. 68.

Fruit bearing ſhoots ſtraight, brittle. *Leaves* alternate. NECK.—*Stem* an inch high, ſimple, or branched almoſt from the bottom. *Leafits* very entire. *Fruit-ſtalks* an inch high, purple. *Stellated* ſhoots with broader leaves. WEIS.—*Bulbs* ſolitary, in the boſom of the leaves, ſitting, pellucid, roundiſh. LEERS.—The plant turns brown when ſoaked in water. DILL.

Bryum annotinum. Hudſ.

Woods and moiſt ſhady places.

P. March, April. HUDS.—Summer. DILL.

ſwan's neck MNI'UM *hor'num.* Capſules pendant. Fruit-ſtalks bowed. Shoots ſimple. Leaves rough at the edge.—

Hedw. Theor. 11. 35.—*Hiſt.* ii. 5. 22, 23; i. 1. 2. 3. 4. 10, *parts of fructification.*—*Dill.* 51. 71.—*Mich.* 59. 2.—*Curt.* i. 8.—*Vaill.* 24. 4. *and* 5.—*H. ox.* xv. 6. *row the laſt,* 3 *and* 4, *repreſent it as it ſometimes appears before it produces capſules.*—*(Vaill.* 26. 12, *is M. crudum.)*

Stellated ſhoots-ſimple. *Capſule-bearing* ſhoots much branched. NECK.—*Leaves* finely ſerrated. HUDS. — Fruit-ſtalks terminating. NECK.—Grows in broad patches. Length four or five inches, one half beneath the ſurface. *Shoots* an inch long, or more, red; leaves yellow green, pellucid. *Fruit-ſtalks* to two inches long, red, upright, but bending at top like the neck of a ſwan. *Veil* crooked. *Lid* white. WEIS.—*Veil* deciduous.

Bryum hornum. Hudſ. Curt. Weber.

Woods; moiſt ſhady and boggy places. P. Feb.—May.

capillary MNI'UM *capilla're.* Capſules pendant. Leaves egg-ſhaped; keeled; with briſtles at the ends. Fruit-ſtalks very long.—

Dill. 50. 67.—*H. ox.* xv. 6. *row* 5. 19.—*Vaill.* 24. 6.—*Buxb.* i. 63. 4, *and* ii. 4. 3, *if meant for the plant are very ill done.*

Shoots, at the ends of ſome a very ſmall brown ſtar. Very nearly allied to *Bryum cæſpiticium.* LINN.—*Shoots* crowded. *Fruit-ſtalks* 6 or 7 lines long. *Stellated* ſhoots ſtemleſs. Capſule bearing ſhoots from half to one inch long. *Leaves* open in a moiſt, preſſed to, in a dry ſituation. Its ſitting ſhoots, and expanding upper leaves, diſtinguiſh it from the *B. cæſpiticium,* though it ſhould not be in fruit. NECK.—Differs from Bryum *cæſpiticium* in its greater

greater ſize, the lids of its capſules being ſharp-pointed, and its leaves not ſhining. WEIS.

Mudwalls and heaths.

MNI'UM *cru'dum.* Capſules pendant. Veils bowed back. Leaves tranſparent.— *ſpear-leaved*

Hedw. ſtirp. i. 37.—*Dill.* 51. 70.—*Vaill.* 26. 12.

Leaves green, almoſt ſilky. *Fruit-ſtalks* long, red. LINN.—Half an inch high; not branched. *Leaves*, upper ones thrice as long as the lower, crowded, upright but open. *Capſules* upright, then pendant, and laſtly upright again. *Veil* turning up when the capſule hangs down. *Lid* hemiſpherical, beak ſhort, ſtellated plants not ſo tall. A powdery brown ſubſtance in the centre of the ſtar. LEERS.—*Fertile ſtem* ½ an inch *Barren ſtem* an inch high, or more. *Leaves*, the upper ones a little toothed towards the ends. *Capſule* bent horizontally. *Mouth*, outer fringe of 16 teeth. HEDWIG—*Fruit-ſtalks* from the ends of the young ſhoots; pale red. DILL.

Bryum crudum. HUDS.

Fens in Cambridgeſhire. DILL.—Woods about Rydall, Weſtmoreland. HUDS. P. March—June.

MNI'UM *pyriſor'me.* Capſules pendant; turban-ſhaped. Fruit-ſtalk thread-ſhaped. Fertile flowers briſtly. LINN.—Leaves briſtle-ſhaped. HUDS. *golden*

Dill. 50. 60.—*Hedw. ſtirp.* 1. 3; *hiſt.* i. 3. 12.—*Hall. enum.* 4. 7, *at p.* 118, *repr. in hiſt.* 45. 7, *at* iii. *p.* 41.

In this and in the *M. crudum*, the ſtem is half as long as the fruit-ſtalk. Beautifully ſhining. *Leaves* of a greeniſh golden hue. LINN.—Forming a firm turf. Diſtinguiſhable by its long ſlender leaves. *Fruit-ſtalks* an inch or more in length, terminating, purple, ſhining, iſſuing from a browniſh green fence. *Stellated* ſhoots with longer leaves. WEIS.—*Fruit-ſtalks* ſerpentine, pale red to golden yellow. *Capſules* pear-ſhaped, green, changing to yellow red. DILL.

Bryum aureum. HUDS.

Rocks in Nottingham Park. [Berwyn Mountain, in the road between Bala and Llangunnry, and on Snowdon. Mr. WOOD.]

P. March—June, [and July. Mr. WOOD.]

MNI'UM *ſerpyllifo'lium.* Fruit-ſtalks incorporated. Leaves expanding; tranſparent.— *thyme-leaved*

α punctatum. Fruit-ſtalks incorporated. Leaves very entire; inverſely egg-ſhaped; blunt; dotted.

Hedw. hiſt. i. 10. 66 *to* 69.—*Dill.* 53. 81.—*Happ.* ii. 4.—*Vaill.* 26. 5.—*Pluk.* 45. 7, *no fruit.*—*H. ox.* xv. 6. 39, *and* 40, *no fruit, and the leaves too oblong.*

It varies in the fruit-ſtalks being ſolitary or incorporated, and alſo in the fertile ſhoots being upright, and the barren ſhoots creeping. WILLDENOW.—*Fruit-ſtalks* long, reddiſh. *Capſules* nodding. REYG.—*Fruit-ſtalks* 3 or 4 together. NECK.—Grows in large patches. *Stems* ſimple. *Leaſits* with a ſcarlet rib, cartilaginous and purple at the edges. *Fruit-ſtalks* terminating, generally ſingle, ſometimes 3 or 4 together; one to two inches high; thicker downwards. *Capſules* nodding, egg-ſhaped. *Seeds* greeniſh. *Shoots* without capſules, ending in roſes. WEIS.—*Leaves* pellucid, ſmooth, pale green. *Fruit-ſtalks* one to three on a plant. DILL.

Watery places. P. April.

β HUDS.—Leaves longer, more pellucid.

Dill. 53. 80.

Leaves longer and blunter than β of Linnæus. *Capſules* not ſo pendulous. *Lid* ſpit-pointed. *Fruit-ſtalks* three to five on a plant. DILL.

In bogs in the Weſt Riding of Yorkſhire.

Capſules half ripe in Spring. DILL.

β *cuſpidatum.* Fruit-ſtalks incorporated. Leaves alternate, pointed, ſerrated.

Dill. 53. 79.—*Vaill.* 26. 18.—*Happ.* ii. 6.

Fruit-ſtalks terminating, on ſhoots little branched. Other ſhoots ſtellated; others proliferous, with ſerrated leaves. NECK.—*Leaves* longer than in (α) ſharply ſerrated, mid-rib pale-green, ending in a ſharp point. WEIS.—*Shoots* trailing or upright, branched at the ends. *Fruit-ſtalks* ſolitary or incorporated. WILLDENOW.

B. ſerpyllifolium cuſpidatum. HUDS.

Woods, moiſt heaths, ſhady places, and in bogs on heaths and meadows. P. April.

γ *proliferum.* Fruit-ſtalks incorporated. Leaves ſpear-ſhaped; pointed; diſpoſed in form of a roſe.

Dill. 52. 77.—*Buxb.* ii. 1. 3.

Very elegant in form, ſhrub-like. *Stem* naked at bottom, foliage from one center at the top. *Leaves* from three to ſix lines long, and two broad. Other ſhoots often riſe from this foliage. Some of theſe are barren roſes, but others ſend out fruit-ſtalks, one or two inches long, bearing pale orange capſules. *Veils* not obſerved. WEIS.—Barren ſhoots not creeping. WILLDENOW.

Bryum ſerpyllifolium proliferum. HUDS.

Wet places in woods and heaths near Biſhop's Caſtle. DILL.—[Bungay, Suffolk. Mr. STONE.] Winter.

δ *undulatum*

β *undulatum.* Fruit-ſtalks incorporated. Leaves oblong; waved.
Dill. 52. 76.—*Vaill.* 24. 3.—*Mich.* 59. 5.—*Tourn.* 326. *E.*—*Pet. gaz.* 95. 16.—*H. ox.* xv. 6, *row the laſt,* 1.—*Neck meth. f.* 6. *at p.* 273, *a ſtar-like head.*

B. ſerpyllifolium undulatum. Hudſ.—Fertile and barren plants diſtinct.—All the ſhoots upright, and branched. NECK.—The largeſt and moſt beautiful of the Mniums.

Root creeping horizontally, ſending out reddiſh ſhoots from one to four inches high, which often branch out like a ſhrub. *Fruit-ſtalks* terminating, three or four together. *Capſules* green. *Lid* blunt. *Veil* pale brown. *Ring* fringed. Barren flowers ſurrounded by ſtrap-ſhaped leafits, in the centre of ſhoots ending in roſes. WEIS.

Moiſt ſhady woods about the roots of trees, and hedges. P. April.

γ HUDS. 492.—Capſules and fruit-ſtalks very long.
Dill. 52. 78.—*Buxb.* i. 63. 3?—*(Lob. ic.* ii. 243. 1, *repr. in Ger. em.* 1563. 14, *and cop. in Park.* 1308. 9, *appears to be rather Polytrichum commune* β.)

Fruit-ſtalks reddiſh. *Capſules* pendant. *Lid* blunt. Leaves pellucid, ending in hairs. *Root* woolly, ochrey. DILL.

Wet places in woods and heaths.

Some eſteem theſe varieties to be diſtinct ſpecies, on which account they are ſo diſpoſed that they who think ſo, may readily refer to them as ſuch. LINN.

1311. BRY'UM. Threadmoſs.

Ess. CHAR. *Capſule with a lid. Veil ſmooth. Fruit-ſtalk riſing from a tubercle at the end of the ſtem.*

* *Capſules ſitting.*

BRY'UM *apocar'pum.* Capſules ſitting, at the ends of the branches. Veil very ſmall. *ſeſſile*

Vaill. 27. 15.—*Hedw. ſtirp.* i. 39.—*Dill.* 32. 4.—*Fl. dan.* 480, *vaguely cop. in Happ.* iii. 2; *the entire plants more like variety* β.

Shoots forming tufts; about an inch long. *Capſule, lid* pointed, elegantly coloured. *Mouth* fringed. *Fringe* very red. NECK.—*Shoots* one to two inches high; ſomewhat branched. *Leaves* at the ends of the ſhoots and branches, paler, longer, hairy at the end; from amongſt theſe riſe up *fruit-ſtalks,* very ſhort, purple, with a yellow tubercle. *Capſules* oblong, ſmooth, green, changing to a yellow. *Mouth* purple, open, elegantly fringed. *Lid* ſcarlet. *Veil* pale yellow, deciduous. The Fruit-ſtalks are ſo enveloped by the leaves

at the extremity of the ſhoots, that neither they nor the capſules can be diſtinctly ſeen, but the ſcarlet lid ſtrikes the eye. Weis.

Rocks, ſtones and trees. [Walls and roofs of houſes in Bungay, Suffolk. Mr. Stone.] Nov.—April.

β Shoots longer and more branched, leafits ending in hairs.

Hedw. ſtirp. i. 40.—*Dill.* 32. 5, *B as when dry, A as when moiſtened.*—*Vaill.* 27. 18, *as when moiſtened.*

In ſpreading tufts like the preceding, but the ſtems are longer, more branched, more leafy. *Leaves* broader, terminating hairs longer than in α; dilute green in winter, hoary in ſpring. The ends of the branches often hooked, which never happens in the preceding variety. *Capſules* incloſed in leafy ſcales, green; the young ones at the ends, the old ones at the ſides of the branches. Dill.

Rocks and trees. Weſt Riding of Yorkſhire. Grey Weathers near Marlborough. Hills about Biſhop's Caſtle. Dill.—Rocks on the Highland mountains. Lightf. St. Nov.—Jan.

[Upon ſtones, on hills about Stayley Bridge, near Mancheſter. April. Mr. Bradbury.]

ſcored BRY'UM *ſtria'tum.* Capſules nearly ſitting, ſcattered. Veils ſcored, or with hairs pointing upwards.—

Obs. Nearly allied to the Polytrichums, but wants the excreſcence below the capſule. Linn.

Polytrichum *ſtriatum.* Hudſ. 471. Lightf. 704.

Trees and rocks. Feb.—May.

α Fruit-ſtalks very ſhort; lateral or terminating; leaves turned back at the edge, and gnawed at the ends.

Hedw. ſtirp. ii. 36, *hiſt.* i. 8. 47 *to* 54; ii. 7. 36.—*Neck. meth.* 1. 2, *at p.* 273, *a capſule magnified.*—*Dill.* 55. 8.—*Fl. dan.* 537. 3.—*Vaill.* 25. 5 *and* 6.

Shoots 1 inch high, branched. *Capſules* lateral. *Mouth* nearly ſmooth, without a ring. Neck.—Branched; 2 or 3 inches high. *Leaves* as if gnawed at the ends. *Florets* of both ſorts on the ſame or on diſtinct plants. *Fruit-ſtalks* very ſhort, ſheathed at the baſe. *Capſule* egg-ſhaped. *Lid* ſmall, beak blunt. *Fringe* double, 16 teeth in each. Is found both in flower and in fruit almoſt all the year. Hedwig.

In woods on trees. The veils appear in winter, and the capſules in Feb. March, and April. Dill. P.

β Smaller than (α)

Hedw. ſtirp. 2. 37, *hiſt.* ii. 7. 35.—*Dill.* 55. 9.—*Vaill.* 27. 10.—*H. ox.* xv. 6, *row the laſt,* 13.

Stems from ½ inch to 2 inches; branched. *Fruit-ſtalks* lateral or terminating, 2 or 3 lines long. *Capſules,* mouth fringed; lid yellow.

yellow. *Veil* ſcored; rough with a few ſtiff hairs pointing upwards, which fall off with age. Weis.—Plant ſmaller than the preceding; leaves ſmaller, darker green; veil paler and more diſtinctly toothed at the baſe. Dill.

On trees, ſtones, and walls, and on the ground.

Feb.—April. Dill.

γ Leaves ſhort, ſtraight, keeled.

Dill. 55. 10.

Differs from (β) in having leaves more ſlender and more pointed. *Capſule* more pear-ſhaped, and green, and its veil more hairy. Weis.—Grows in tufts. Stem about an inch high, ſomewhat branched. Leaves numerous, ſtraight, keeled, pellucid when wet, opake and darker green when dry. *Fruit-ſtalks* very ſhort, thick at the bottom. *Veil* brown, hairy, ſtriated. Dill.

Rocks near Bangor. Dill.—[On ſtones on the ſide of a river which are waſhed by the water in high floods. Mr. Griffith.] Autumn.

** *Capſules on Fruit-ſtalks; upright.*

BRY'UM *acicula're.* Capſules upright. Lid needle-ſhaped. Leaves upright, moſtly pointing one way.— *mountain*

α Stems and leaves upright. Huds.

Dill. 46. 25.

One or 1½ inch high. Branches upright. *Leaves* crowded. *Fruit-ſtalks* near an inch high, dark red, on the ends of the younger branches. Dill.

On ſtones thinly covered with mould near Llanberris, Caernarvonſhire, and in the Weſt Riding of Yorkſhire. Dill.—In the Highlands and Lowlands frequent. Lightf. St. P. May—Oct.

β Stems trailing. Leaves ſomewhat open. Huds.

Fl. dan. 1001. 1.—*Dill.* 46. 26.—*Hall. it. herc. in opuſc. p.* 152. *f.* 1. *and* 2. *Bryum, &c. All the fruit-ſtalks repreſented as terminating.—Vaill.* 27. 16.—*Pet. muſ. cent.* i. *t.* 1. *f.* 74, *cop. in H. ox.* xv. 5. *row* 4. 29, *repreſenting it as dry, and the two left hand capſules repreſented as bowed down from an accident in the ſpecimen from which the drawing was made.*

Shoots branched, floating in the water or reſting on ſtones. *Leaves* brown green. *Fruit-ſtalks* ſhort and blackiſh. *Capſules* oblong, ſtraight, dark green. *Veil* black. Dill.

On large ſtones that lie in the rivulets in the moors of the Peak of Derbyſhire. Pet. and in the mountain torrents near Llanberris, Caernarvonſhire. Dill.—[North Wales. Mr. Griffith.]

P. Aug.

pointed BRY'UM *acu'tum.* Capſules upright, roundiſh. Leaves briſtle-ſhaped, upright. Shoots branched, pointed. HUDS.

Dill. 47. 34.

Slender, 1 inch high, branches 2 or 3, ſometimes more. *Leaves* dark green, hairy, ſharp-pointed. *Fruit-ſtalks* ſhort, when young, terminating. *Veil* browniſh. *Capſules* ſhort, roundiſh. DILL.

Snowdon, and mountains about Llanberris. DILL.—On Ben Lomond, and ſides of Highland mountains. LIGHTF.

Aug.—May. DILL.—Oct.—June. LIGHTF.

conferva-like BBY'UM *æſti'vum.* Capſules upright, roundiſh; from the boſom of the branches. Leaves awl-ſhaped; diſtant,—

Dill. 47. 36.—*(Hall.* 45. 1, *at* ii, *p.* 41, *is B. capillaceum.)*

B. æſtivum. Hudſ. is *B. capillaceum,* which ſee.

Stems 1 to 3 inches high; upright. *Branches* 3 or 4, or more, all of a length; theſe again ſometimes divide into other equal branches. *Leaves* very ſhort. *Fruit-ſtalks* ½ to 1 inch. *Capſules* cylindrical. *Mouth* hairy when magnified. NECK.—Growing in bundles. *Leaves* few, alternate. When dry the plant preſerves its beautiful bluiſh green colour. DILL.

Marſhy places. RICHARDSON *in Dill.* 375.

bearded BRY'UM *barba'tum.* Capſules upright, oblong, bearded. Lid taper-pointed, oblique. Fruit-ſtalks lateral, CURT.

Curt. iv. 46.—*Dill.* 48. 48.

Grows in tufts, ½ an inch high, ſomewhat branched. *Leaves* ſpear-ſhaped, pointed. *Fruit-ſtalks* ½ inch or more from the baſe or the middle of the branch, but never terminating. *Capſules* ſlender. *Veil* long. *Lid* long, ſlender, conical. *Fringe* orange-coloured, or ſcarlet, twiſted like a ſcrew. CURTIS.—The 45th pl. of Dill. is referred to by miſtake in the obſervations of Mr. Curtis.—*Branches* of equal thickneſs, ſent off from the lower part of the plant. DILL.

On walls. P. Dec.—Feb.

twin BRY'UM *biparti'tum* Capſules upright, ſomewhat ſlanting, finely toothed. Shoots cloven. Leaves ſpear-ſhaped, pointed, keeled, between tiled and open. DICKS, ii. 7.

Dill. 49. 50.

Branches and *Fruit-ſtalks* in pairs. *Capſules* oblong, browniſh. *Lid* ſhort. *Veil* ſlender, pointed. *Leaves* narrow, keeled, dark green. DILL.

Hedges

Hedges in gardens, walls and ditch banks, common.
Feb. March.

BRY'UM *brevifo'lium*. Capſules upright, oblong, tapering, imperfectly fringed. Leaves crowded, ſtrap-ſhaped, keeled. DICKS. ii. 4. *ſhort leaved*

Dill. 47. 39.

Slender, but little branched. *Leaves* dark green, very narrow and ſhort. *Fruit-ſtalks* terminating the new ſhoots, ſhort. *Capſules* oblong, ſmall, dark brown. DILL.

In bogs.

BRY'UM *calca'reum*. Without a ſtem. Capſules upright, inverſely conical, toothed. Leaves upright, cylindrical, bluntiſh. DICKS. ii. 3. *calcarious*

Dickſ. 4. 3.

A dwarfiſh plant, ſmaller than *B. paludoſum*, but the capſules ſufficiently large and conſpicuous. *Lid* conical, with a beak ſomewhat ſlanting. *Veil* ſlender, ſlanting. DICKS.

On limeſtone rocks near Newmarket Heath.

BRY'UM *caneſ'cens*. Stem upright. Leaves crowded, bent back, white at the ends. Capſules upright, egg-ſhaped. HEDWIG. *grey-leaved*

Hedw. ſtirp. iii. 3.—*Vaill.* 26. 14.—*Dill.* 47. 27.

Stem upright when young, afterwards declining, and ſending out a few branches of various lengths. *Leaves* ſpear-ſhaped, keeled, preſſed to when dry. *Fruit-ſtalk* ſtraight, ½ of an inch in height. *Capſule* oblong-egg-ſhaped. *Lid* a ſlender cone. *Mouth* fringed with 16 long hair-like teeth, divided down to the baſe. *Veil* ſlender, long, ragged at bottom. HEDWIG.—*Fruit-ſtalks* lateral. *Ibid.*—Terminating. NECK. WEIS.—Probably as in the caſe of many other ſpecies, from the ends of the old ſtems, and from the ſides of the young branches.

Bryum hypnoides β. *Fl. ſuec.*

Trichoſtomum caneſcens. Hedw. ſtirp. iii. p. 5. Differs from the B. hypnoides in its upright ſtem, its leaves being very ſlightly ſerrated only at the ends, and in its longer fruit-ſtalk. HEDWIG.—When moiſt and growing, yelloviſh green, when dry woolly, from the number of hairs which terminate the leaves. DILL.

Common in dry, high, barren, ſandy places.—Blackheath, Woolwich, Hampſtead, Enfield Chace, and Dartford heath. DILL.
Feb.—March. P.

BRY'UM

capillary BRY'UM *capilla'ceum.* Capſules upright, oblong. Fruit-ſtalks terminating. Leaves briſtle-ſhaped, open, running down the ſtem. DICKS. 4.

Hedw. ſtirp. ii. 26.—*Fl. dan.* 1000. 1.—*Dickſ.* 1. 6.—*Hall. enum.* 4. 1, *at p.* 118, *repr. in hiſt.* 45. 1, *at* ii. *p.* 41.

Capſules oblong. *Leaves* expanding, briſtle-ſhaped. *Stems* thread-ſhaped. HUDS.—Differs from *B. heteromallum* in its open leaves, and the ſhape of its capſules; and from *B. flexuoſum* in its fruit-ſtalks ſlender, quite ſtraight, and not zigzag, and in the ſmallneſs of its capſules. DICKS.—*Stem* undivided, upright, ½ an inch high. *Leaves* in 2 rows, alternate. Barren and fertile flowers together, terminating. *Fruit-ſtalks* ½ to 1 inch long. *Veil* opening at the ſide. *Capſules* cylindrical. *Lid* ſhort, conical. *Mouth*, fringe ſingle, teeth in pairs. HEDWIG.

B. æſtivum. HUDS. 485.

On rocks, and moiſt mountainous ſituations. On Ingleborough plentifully. HUDS.—About Llanberris. Mr. DAVIES.—Marſhy places in mountainous ſituations. DICKS.—[On the rocks above Cwm Ffynnon felen, near Llanberris abundantly. Mr. GRIFFITH. —Spink's Grove, Brome, near Bungay. Mr. STONE.]

P. April—June.

convoluted BRY'UM *convolu'tum.* Capſules upright, oblong, bearded. Leaves ſpear-ſhaped. Empalement cylindrical. DICKS. ii, 6.

Hedw. ſtirp. i. 32.—*Dill.* 48. 44.—*(H. ox.* xv. 6. *row* 4. 12, *as Dill. very juſtly obſerves, is more like B. pulvinatum, or rather perhaps B. rurale.)*

Grows in denſe tufts, ½ an inch or more in height; branches iſſuing out of the thickened tops of the old ſhoots, which are ſtellated at the ends. *Leaves* looſely diſpoſed, ending in hairs. *Fruit-ſtalks* from the laſt year's ſhoots, 1 inch long, encompaſſed at the baſe by a fence of awl-ſhaped hairy leaves. WEIS.—Sometimes with forked branches. *Leaves* very ſlender, hardly ¼ of a line broad at the baſe, very entire. *Empal.* terminating, embracing cloſely the baſe of the fruit-ſtalk. *Capſule* cylindrical, a line long, hardly ¼ as broad. *Mouth* without a ring; fringe red. *Lid* ſlender, upright, awl-ſhaped. *Veil* pointed, ſmooth, thread-ſhaped, reaching but half way. POLLICH.—Inner *Fence leaves* heart-ſhaped, blunt.

B. ſetaceum. Hudſ. 481. Lightf. 729.—*(Mnium ſetaceum* of Linn. is a different ſpecies which has rigid briſtle-ſhaped leaves.) DICKS.

Heaths, ditch banks, hedges and walls very common. A. March.

BRY'UM *crisp'um.* Leaves ſtrap-ſhaped, broadeſt at the baſe, crowded, criſped when dry, Capſules egg-ſhaped. Fruit-ſtalks thicker upwards. (HEDWIG.) *heath*

Hedw. ſtirp. ii. 35.—*Dill.* 55. 11.—*Pet. muſ. f.* 25.—*Vaill.* 27. 9.

In denſe tufts, ſo cloſe, that the under parts decay. About 1 inch high, branched. *Barren* flowers in the boſom of the leaves. *Sheath* ſcarlet. *Fruit-ſtalks* terminating, ſhort, ſtraightiſh, thickening at the top ſo as to coincide with the pear-ſhaped Capſule. *Capſule* from the above circumſtance appearing pear-ſhaped, but it is really globular-egg-ſhaped. *Lid* with a ſtraight ſhort beak. *Ring* none. *Fringe* double, 16 teeth in each. *Veil* pyramidal, hairy, HEDWIG.

β *Bryum ſtriatum.* Linn. Syſt. pl.

Orthotrichum criſpum. Hedw. ſtirp. ii. 96.

Trunks of trees.—Woods near Southgate in Middleſex. [Not common. Near Bungay, Suffolk. Mr. STONE.] Flowers in ſpring. Capſules ripe in May or June. P.

BRY'UM *curviroſ'trum.* Capſules upright, oblong, finely toothed. The beak of the lid ſlightly bowed back. Leaves ſpear-ſhaped, open. DICKS. ii. 7. *crooked beaked*

Hedw. ſtirp. i. 7.—*Dill.* 48. 45.

The trivial name bad, for it does not always retain that character. MAJOR VELLEY.—*Stem* upright, not branched, about ½ inch high. *Fruit-ſtalk* upright, generally terminating the old ſtem. *Veil* long, conical, crooked. *Lid* convex, beak ſtraight whilſt under the veil, afterwards crooked, but in a direction oppoſite to the bend of the veil. HEDWIG.—*Stem* ſometimes branched. (*See fig. Dill.*) *Leaves* very ſlender, keeled, upper ones the longeſt. *Fruit-ſtalks* red, ½ an inch high, or better. *Capſules* and *Lid* red. DILL.

Woods in dryiſh places.—Sandy ſtony places, interwoven with the graſs. P. Aug.

BRY'UM *dealba'tum.* Capſules upright, roundiſh, ſomewhat bowed in, toothed and fringed. Leaves ſpear-ſhaped, pointed, expanding. DICKS. ii. 8. *criſped*

Dickſ. 5. 3. *a. b. c.*

Habit that of *B. trichodes*, from which it differs as follows. *Leaves* ſpear-ſhaped, moſtly pale, under the microſcope reticulated, pellucid, finely but obſcurely ſerrated at the end. *Lid*, beak ſhort. DICKS.

Mountains in Scotland; on Ben Lawyers.

BRY'UM *ericeto'rum.* Capſules upright, egg-oblong, with a fringed ring. Leaves ſtrap-ſpear-ſhaped, twiſted when dry. DICKS. ii. 5. *whitened*

Dill.

Dill. 45. 13.

Leaves pellucid, not hairy, keeled, ſtanding out, dull green. *Capſules* ſlender, nearly cylindrical. *Fruit-ſtalks* pale brown, ½ an inch long. *Veil* and *Lid* deciduous. DILL.

Turfy heaths, Scotland.

extinguiſher BRY'UM *extincto'rium.* Capſule upright; oblong; ſmaller than the veil. Veil looſe, equal at the baſe.—

Hedw. ſtirp. i. 18; *hiſt.* ii. 4. 19; *theor.* 8. 5 *to* 9.—*Dill.* 45. 8. —*Vaill.* 26. 1.—*H. ox.* xv. 7. *row* 1. 12, *only the fruit, the ſtems being thoſe of another ſpecies. See R. ſyn.* 93.—*Pet. muſ. f.* 89, *very imperfect.*

Veil wide at bottom. *Fruit-ſtalks* terminating. *Capſule*, mouth not fringed. NECK.—Grows thick together in patches, from ½ to 1 inch high; ſometimes a little branched towards the top; very leafy, ending in roſes. *Fruit-ſtalks* not ½ an inch long, upright. *Capſules* cylindrical. *Lid* ſharp-pointed. *Veil* large, and hanging down below the capſule.—The veil covering the whole capſule and hanging down below it, diſtinguiſhes this from every other Moſs. POLLICH. DILL.

Graſſy places in a ſandy ſoil, dry heaths, and rocks. [Caſtle walls, Bungay, Suffolk. Mr. STONE.] P. Oct.—Aug.

β Veil cut at the baſe.

Hedw. ſtirp. 1. 19; *theor.* 9. 10 *to* 14, *the fructification; hiſt.* ii. 5. 24. *a, the ſeeds.*—*Fl. dan.* 1001. 2.—*Dill.* 45. 9.

Whole plant larger and more branched.—*Capſule*, mouth fringed. *Veil* cut at the baſe into 6 ſegments; grey, bent inwards. LINN. *ſuec.* n. 990.—*Leaves* retaining their green colour when dry.

Rocks about Ludlow Caſtle. Ripens its capſules in ſummer, the preceding variety in winter. DILL.

Early in the ſpring to July. P.

yellowiſh BRY'UM *flaveſ'cens.* SCOP. *n.* 1305? Capſules upright, cylindrical fringed. Shoots moſtly ſimple. Leaves ſpear-ſtrap-ſhaped, keeled. DICKS. ii. 4.

Dickſ. 4. 5. *a. b.*—*Scop.* 62. 1305, *at* ii. *p.* 321.

Shoots nearly upright. *Leaves* between upright and open, yellowiſh, the points when dry twiſted. DICKS.—Grows in broad patches. *Leaves* 2 lines long, 1-3d of a line broad. *Fruit-ſtalks* 1 inch long, ſaffron-coloured. *Capſule* ſlender, long. *Veil* red at the top, near 2 lines long. SCOP.

Bogs in the Highlands.

BRY'UM

BRY'UM *flexuo'ſum*. Capſules upright. Leaves briſtle-ſhaped. *Fruit-ſtalks* zigzag.—*Leaves* upright. *Fruit-ſtalks* terminating. HUDS. *ſoft*

Dill. 47. 33.

Shoots 3 or 4 inches long. *Leaves* preſſed to. *Fruit-ſtalks* yellow green, an inch long. NECK.—Grows in denſe patches. *Shoots* adhering at bottom, ½ an inch or more in height, branched upwards. *Leaves*, lower ones downy at the baſe; upper ones very cloſely ſet; *Empal.* cloſely embracing the fruit-ſtalk. *Fruit-ſtalks* lateral. *Capſules* ſtraight or ſlightly bent, egg-ſhaped, ſcored, 1 line long. *Ring* none. *Lid* awl-ſhaped. *Veil* ſmooth, reaching but half way. POLLICH.—About an inch high, but little branched, ſlender, thicker upwards. *Leaves* hairy, yellow green. *Fruit-ſtalks* green, turning yellowiſh, variouſly bent and twiſted. *Capſules* oblong, ſlender. *Lid* pointed, red. *Veil* whitiſh. Sometimes 2 or 3 fruit-ſtalks ariſe from one branch. DILL.

Ireland. Rocks about Llanberris. DILL. P. April—June.

BRY'UM *glau'cum*. Capſules nearly upright. Lid bowed. Leaves upright; tiled. Shoots branched.— *white*

Dill. 46. 20.—*Vaill.* 26. 13.—*H. ox.* xv. 6. *row the laſt*, 22 *not in fructification.*

Stem with the appearance of Sphagnum *paluſtre*. *Leaves* whitiſh. *Lid* awl-ſhaped. LINN.—Grows in denſe patches, varying in height from 1 to 4 inches, dividing towards the top into ſhort thick branches. *Leaves* awl-ſhaped, very brittle when dry. WEIS.—*Fruit-ſtalks* terminating, hardly an inch long, ſheathed at the baſe. *Capſules* long-egg-ſhaped, leaning when old. HALL.—*Leaves* 3 lines or more in length, very entire. *Lid* awl-ſhaped, very ſharp pointed. *Mouth* fringed. POLLICH.—Whole plant brittle, greyiſh when growing, or pale glaucous green; whitiſh when dry. *Veil* ſlender, white. DILL.

Mountainous heaths and paſtures. P. Aug.—Nov.

BRY'UM *Hei'mii*. Capſules upright, oblong. Lid obliquely beaked. Leaves ſpatula-ſhaped, taper-pointed, finely toothed. DICKS. ii. 4. *Heimius's*

Hedw. ſtirp. i. 30.

Stem near ½ inch high, unbranched, upright. *Fruit-ſtalks* terminating, near an inch high. *Veil* opening at the ſide. *Capſules* long-egg-ſhaped. *Lid*, beak bent to one ſide. *Fringe* none. HEDWIG.

Sandy places; in Northern expoſures. Feb.—June. P.

BRY'UM *heteromal'lum*. Capſules upright. Leaves briſtle-ſhaped, pointing one way.— *heath*

Hedw.

Hedw. ſtirp. i. 26, *hiſt.* i. 9. 55, 56.—*Vaill.* 27. 7.—*Dill.* 47. 37.—*Fl. dan.* 479.—*H. ox.* xv. 6. *row* 3. 5, *and in* 7 *the leaves ſtraight.*—*Buxb.* ii. 2. 8.

The briſtle-ſhaped leaves longer than in any other of our ſpecies. LINN.—*Leaves* hooked. SCOP.—In tufts. *Fruit-ſtalks* from the back of the ſhoots. *Capſules* elegantly coloured. NECK.—In habit reſembling the *B. ſcoparium*, but much ſmaller. *Capſules* egg-ſhaped. *Lid*, beak ſhort. WEIS.—*Stem* ½ inch high, upright, but not ſtraight. *Leaves* not curled when dry. *Barren* flower always terminating. *Fruit-ſtalks* upright, ſingle or in pairs. *Veil* opening at the ſide, deciduous. *Lid*, beak bent. *Fringe* of 16 teeth. HEDWIG.—Seldom branched. *Leaves* hair-like, fine green, moſtly pointing one way. *Fruit-ſtalks* ½ to 1 inch high, green, changing to fine red, ſometimes in pairs. *Veil* pale green. DILL.

Hedge banks, heaths, and roots of trees. On Snowdon. DILL.

A. March—May.

woolly BRY'UM *hypnoi'des*. Capſules upright. Stem nearly upright. Lateral branches ſhort, ſupporting fruit-ſtalks.—

Hedw. ſtirp. iii. 2; *hiſt.* ii. 8. 43, 44.—*H. ox.* xv. 5, *row* 2. 7.—*Dill.* 47. 32.—*Hall. enum.* 3. 4, *at p.* 109, *repr. in hiſt.* 46. 4, *at* iii. *p.* 56.—*Fl. dan.* 476, *cop. in Happ.* iii. 3.—*Pluk.* 47. 5, *ill done.*—*(Dill.* 46. 26, *is B. aciculare* β.)

Grows in denſe patches, nearly upright, from 1 to 6 inches high, more or leſs branched; larger branches ſending out numerous ſmall ones, ſhort, alternate, thickeſt at the end. *Leaves* very narrow, pointed, ending in a long ſhining whitiſh hair. *Fruit-ſtalks* upright, 4 or 5 lines long, from near the ends of the branches; fenced at the baſe. *Capſules* egg-ſhaped. *Lid* tapering to a point. WEIS.—*Leaves* a little toothed at the ſides, but this moſt conſpicuous in the dried plant. *Capſule* upright. *Mouth* fringed with 16 teeth, hair-like, ſeparate quite down to the baſe. HEDWIG.—*Shoots* rigid, from 4 to 12 inches long, ſpreading on the ground. *Branches* ſhort, irregular, thicker than the ſhoot. *Leaves* green, very ſlender, ending in long grey hairs. DILL.

Mountains of Wales. *R. ſyn.* Snowdon, Glyder. Mendip Hills Yorkſhire. DILL. Autumn. P.

β LINN.—Green, hairy, in cluſters. DILL.

Dill. 47. 28.

Yellowiſh green; without grey hairs, growing in bundles. DILL. Snowdon. DILL. Sept.

γ Capſules bearded.

Dill. 47. 31.

Leaves

Leaves ſhort, ſlender, keeled. *Fruit-ſtalks* from the diviſion of the branches. *Capſules* pyramidal. *Lid* ſpit-pointed. Though this plant is not properly hairy, it has a rough appearance. DILL.

Snowdon. DILL.

ε Fl. ſuec.—Lids blunt. DILL.

Dill. 47. 30.

Leaves crowded, very ſmall, yellowiſh or browniſh green. *Fruit-ſtalks* from the upper branches, ½ inch long, pale. *Lid* not pointed. DILL.

Snowdon. DILL. Aug.

It forms a cuſhion on the rock. LINN.

BRY'UM *imber'be.* Capſules upright, dilated at the mouth. Leaves keeled, open. LINN.—Capſules oblong, beardleſs. Leaves ſpear-ſhaped, expanding. HUDS. 481. *beardleſs*

Hedw. ſtirp. i. 24.—*Dill.* 48. 46.

Shoots branched. *Leaves* ſtrap-ſhaped, keeled. *Fruit-ſtalks* upright, ſolitary, terminating and lateral, ½ inch long. *Capſules* cylindrical, 1 line long, deep ſaffron coloured, blackiſh at the baſe. WEBER.—*Fringe* long. HALLER.—Not an inch high, upright, unbranched at firſt, but every year ſending out branches after the flowering ſeaſon. *Leaves* broad at the baſe, and keeled. *Barren* flower terminating. HEDWIG.—Grows in denſe tufts. *Stems* ſlender, ½ to 1 inch high, dividing into branches. *Leaves* very ſlender, pale green, upper leaves bent back. DILL.

Sandy heaths, ditch banks, and walls. [Bungay, Suffolk. Mr. STONE.] Winter. DILL. A. March, April. HUDS.

BRY'UM *latera'le.* Capſules upright, lateral. Leaves briſtle-ſhaped, pointing one way. LIGHTF. 727.—Capſules oval. HUDS. 483. *lateral*

Hedw. ſtirp. ii. 40.—*Hall. enum.* 3. 8, *at p.* 109, *repr. in hiſt.* 46. 8, *at* iii. *p.* 56.—*Hall. it. helv.* ii. 1. 2. *in opuſc. p.* 300.—*Fl. dan.* 823. 1; *and* 538. 3.

Stems forming tufts, from 1 to 3 inches high; almoſt upright, purpliſh, but little branched; covered at the baſe with fox-coloured wool. *Leaves* numerous, very green, briſtle-ſhaped, ſoft, long. *Fruit-ſtalks* upright, ſhort, purple. *Veil* conical, ſharp, pale, deciduous. *Capſules* fringed, tawney. *Lid* conical, very ſhort, tawney. HUDS.—Chives and pointals in the ſame empalement. *Fruit-ſtalks* ſhort, ſtiff, but bending by the weight of the Capſule, fixed to the end of the laſt year's ſhoot, but the growth of the new ſhoot makes it appear lateral. Outer fringe of 16 teeth. HEDWIG.—In the *B. pomiforme*, the leaves are more equally tapering, and the fruit-ſtalks are longer.

Shady

Shady woods by the ſides of the Highland mountains, and the ſides of rivulets in the fir foreſts. On Hart-fell mountain near Moffat. P. May—Sept.

wall BRY'UM *mura'le.* Capſules upright. Leaves ſtraightiſh, terminating in hairs. Shoots ſimple; growing cloſe together, and forming a tuft.—

Dill. 45. 14. *A. E.*—*Vaill.* 24. 15, *in a tuft.*—*Buxb.* i. 64. 4. —*Mich.* 59. 7.

Grows in a round convex tuft, or little cuſhion. LINN. ST.—*Fruit-ſtalks* green, ſhort, and bowed back, ſo that the egg-ſhaped capſule ſeems to lie upon the leaves. *Lid* taper-pointed. *Veil* very thin, and very ſhort. LINN. *fl. ſuec.*—Grows in broad patches, or in circular buttons convex in the middle. Hardly more than 4 or 5 lines high, ſeldom branched, ending in roſes. *Leaves* ending in grey hairs, as long as the leaf. *Fruit-ſtalks* terminating, near an inch long, ſtraight. *Capſules* ſtraight, nearly cylindrical. *Veil* oblique. Nearly allied to the *B. pulvinatum*, but diſtinguiſhable by the greater length and ſtraightneſs of its hairs. When young it is deſtitute of hairs. Dill. 45. 15. WEIS.—*Leaves* opake, approaching, rigid, fine green when wet, dull green when dry. DILL.

Walls, roofs, tiles, ſtones, rocks and ſandy places, everywhere. P. Nov.—March.

β HUDS.—Small; without hairs.

Dill. 45. 15.—*Buxb.* i. 64.

Leaves ſhorter, broader, ſofter than in the preceding; pellucid, green, not hoary with hairs. Grows much crowded together, but not in a circular form. DILL.

On banks of earth near Streatham, Surrey, and at Oxford. Winter. DILL.

blunt BRY'UM *obtu'ſum.* Capſules upright, inverſely egg-ſhaped, lopped. Lid convex. Leaves ſpear-egg-ſhaped, taper-pointed. DICKS. ii. 5.

Dickſ. 4. 7. *a. b.*

Fringe none. *Veil* bell-awl-ſhaped. *Leaves*, under the microſcope, reticulated, finely toothed. Differs from *B. truncatulum* in the beaked lid, and its capſule being longer, &c. DICKS.

Stones and rocks on Ben Crechan, Scotland.

egg BRY'UM *ova'tum.* Capſules upright, egg-ſhaped. Leaves egg-ſhaped, concave, ending in hairs. DICKS. ii. 4.

Hedw. ſtirp. i. 6.—*H. ox.* xv. 7. 18.

Very

Very minute, unbranched, with ſcarcely any ſtem. *Flowers* terminating. *Fruit-ſtalk* upright, not longer than the capſule. *Veil* reddiſh brown. *Lid* conical, beak oblique. Very common on mud walls, ſpreading in broad and denſe patches; ſeldom on the ground. HEDWIG.

Paſtures. Mud walls. April, May.

BRY'UM *paludo'ſum*. Stemleſs. Leaves briſtle-ſhaped. Capſules very blunt; open.— *dwarf*

Dill. 49. 53.

Differs from *B. viridulum* in its brown capſules, and the leaves not curling when dry. LINN.—Growing in patches. NECK.—Extremely ſmall, only obſervable from its growing in a quantity together. *Leaves* minute, hair-like, but expanding. *Fruit-ſtalk* terminating, 2 or 3 lines long. *Capſules* egg-ſhaped; *Mouth* wide, minutely fringed. *Veil* ſlender, upright. Differs from the *B. virens* in the darker green of it leaves, their being ſlenderer, not curling when dry, and in having ſmaller capſules. WEIS.—Always grows ſingly, never in tufts. WILLDENOW.—*Leaves* very ſlender, ſcarce ſenſibly broad, ſoft, dull green. *Capſules*, *Lid* deciduous, leaving a large open for the ſize of the capſule. DILL.

In ſandy marſhes and turfy ground in Yorkſhire. RICHARDSON *in Dill.* 387.—Moiſt rocks, and ſometimes decayed wood in damp ſhady places. LIGHTF. A. March—May.

BRY'UM *pa'tens*. Capſules upright, ſomewhat pear-ſhaped, fringed. Fruit-ſtalks very ſhort. Shoots nearly upright. Branches expanding, riſing nearly to the ſame height. DICKS. ii. 6. *expanding*

Dickſ. 4. 8. *a. b.*

Shoots ſomewhat ſlanting, nearly cylindrical, tapering towards the baſe, very much branched. *Branches* unequal, rather pointed, ſomewhat higher than the fruit-ſtalks. *Leaves* tiled, preſſed to, the points ſtanding out, quite ſtraight, ſtrap-ſpear-ſhaped, pointed, channelled. *Fruit-ſtalks* from the ſides of the uppermoſt branches, few, ſolitary, very ſhort, often zigzag. *Capſules* ſmall. *Fringe* fringed. DICKS.

On rocks in mountainous rivulets. On Ben Nevis, Scotland.

BRY'UM *pellu'cidum*. Capſules leaning. Leaves bowed back; pointed. Stem hairy.— *tranſparent*

Hedw. theor. 8. 1 *to* 4.—*Dill.* 46. 23, 24.—*Pluk.* 44. 7.—*Pluk.* 49. 1, *in which ſeveral ſhoots riſe from the top of that of laſt year.*

Stem about 2 inches long, branched. *Leaves* ſpear-ſhaped, remarkably

markably ſhining, ending in a ſtiff hair. *Fruit-ſtalks* 1 inch long. *Capſules* ſlender, fringed. POLLICH.—*Fruit-ſtalks* ſometimes in pairs; terminating. *Capſules* brown when dry. DILL.

Marſhy and ſhady places. Near North Bierly not far from Bradford, Yorkſhire, and on the ſides of lakes on Glyder and Snowdon mountains. P. June—Sept.

apple BRY'UM *pomifor'me*. Capſules upright; ſpherical.—*Dill.* 44. 1.—*Fl. dan.* 478.—*Vaill.* 24. 9 *and* 12.—*Buxb.* v. *app. n.* 4.—*H. ox.* xv. 6. *row* 4. 6, *capſules ripe.*

Leaves briſtle-ſhaped. *Fruit-ſtalks* ſolitary, purpliſh below. *Capſules* globular. *Veil* very much pointed, very ſmall, oblique. LINN.—Grows thick together in broad patches. *Stems* about an inch high; the old ones branched, the young ones ſimple. *Leaves* very ſlender, ſerrated towards the ends. *Fruit-ſtalks* full ½ inch long, from the ends of the younger ſhoots, one or more in a place. *Capſule* at firſt ſlender, when ripe globular. *Mouth* wide, fringed. *Veil* deciduous. WEIS. and DILL.

Heaths, rocks, and banks. A. Feb.—April.

dwarf BRY'UM *puſil'lum*. HEDW. *hiſt.* ii. 32 *and* 87.—Capſules upright, oblong fringed. Leaves concave egg-ſhaped, awl-ſhaped. DICKS. ii. 6.

Hedw. ſtirp. i. 28.

Stem unbranched, upright, very minute, not more than 2 or 3 lines high. *Leaves* concave and egg-ſhaped at the baſe, but very long and ſlender upwards. Barren flowers in the boſom of the leaves. *Fruit-ſtalks* on the ſame plant, terminating, thrice as long as the ſtem, nearly upright. *Fringe* ſingle, of 16 teeth, deeply divided, red. HEDWIG.

In ſandy places. A. Feb.—March.

pear-headed BRY'UM *pyrifor'me*. Capſules upright, inverſely egg-ſhaped. Veil awl-ſhaped. Shoots without ſtems. Leaves egg-ſhaped, without hairs.

Hedw. theor. 9. 16 *to* 19; *and* 10. 20 *to* 22; 14. 63, 64, 65; *hiſt.* ii. 1. 2, 3, 7, 31; 2. 6. *a.* β; 4. 18, *a. b.* 5, 24, 6.—*Dill.* 44. 6.—*Fl. dan.* 537. 1.—*Vaill.* 29. 3.—*H. ox.* xv. 7. *row* 2. 16. *p.* 631.—*Buxb.* i. 64. 1.

Fruit-ſtalks ½ to 1 inch long. RELH. *n.* 1015.—Very ſhort. Upper leaves forming roſes round the terminating fruit-ſtalk. WEIS.—*Lid* with a ſhort beak. SCOP.—*Leaves* 1 line broad, 1½ long. *Empal.* none. *Fruit-ſtalk* about 3 lines long. *Capſule*, mouth without fringe. POLLICH 1.—*Veil* before the capſule ſwells, 4 ſided; afterwards it tears

tears into 2, 3, or 4 ſegments. *Leaves* tender, pellucid, pale green. *Capſules* large for the ſize of the plant, which riſes but little above the ground. DILL.

Heaths, hedges and ditch banks. [Near Bungay, Suffolk. Mr. STONE.] A. Feb. March and April.

BRY'UM *reticula'tum*. Capſules upright, pear-ſhaped, toothed. Leaves egg-ſhaped, ſerrated, reticulated. DICKS. ii. 4. *net-work*

Dickſ. 4. 6. *a. b.*

Shoots upright. *Leaves* diſtant, rather pointed, of a remarkable net-work texture, tranſparent, ſerrated towards the end, below very entire. *Fruit-ſtalk* from the baſe of the plant. *Capſules*, teeth bent in. DICKS.

On Ben High in the Highlands.

BRY'UM *rig'idum*. Stemleſs. Capſules cylindrical, upright. Leaves expanding, ſtrap-ſhaped, convex, ſtiff. HUDS. 477. *rigid*

Hedw. ſtirp. i. 25.—*Dill.* 49. 55.

Stems very ſhort. *Leaves* very entire, bluntiſh, flat above, convex underneath, naked. *Fruit-ſtalk* terminating, ſolitary, upright, ½ inch long, purple. *Veil* conical, pale. *Capſules* fringed, ſmooth. *Lid* taper-pointed, purple at the baſe, half as long as the capſule. HUDS. —*Fertile* plant always taller and ſlenderer than the *barren* plant, but both of them ſhort and thick. *Fringe* red, compoſed of 32 long ſlender filaments, ſpirally twiſted together when moiſt. HEDWIG. —*Leaves* ſtiff, like thoſe of Heath. DILL.

Moiſt rocks near Wigmore, Herefordſhire. BROWN *in Dill.*—On Ingleborough, Yorkſhire. HUDS.—On clay walls in Germany. [Thorpe, near Norwich. Dr. J. E. SMITH.] P. Nov.—July.

BRY'UM *rura'le*. Capſules nearly upright. Leaves bowed back, terminating in hairs.— *grey*

Hedw. hiſt. i. 6. 28 *to* 32.—*Dill.* 45. 12.—*Vaill.* 25. 3.—*H. ox.* xv. 6. *row* 3. 1. *and row* 4. 2.—*Buxb.* v. 44. 1.

Fruit-ſtalks from the ends of the young ſhoots, from the ſides of the older ones. NECK.—Grows in tufts, often circular. *Shoots* upright, branched, 1 or 2 inches high, ſtellated at the ends. *Leaves* numerous, broad ſpear-ſhaped, pointed. *Fruit-ſtalks* an inch high, ſurrounded by a fence at the baſe. *Capſules* cylindrical; mouth with a long fringe. *Lid* a long cone. WEIS.—Grows in denſe and elevated tufts. *Stems* upright, branched, 1 to 2 inches high. *Leaves* crowded, ſtanding open, fine yelloviſh green when wet, but dull greyiſh, and browniſh in dry ſeaſons. DILL.

Roofs both thatched and tiled, walls and trunks of trees.

P. Dec.—April.

When this takes to grow upon thatched buildings ſo as to cover the thatch, inſtead of laſting but about ten years it will endure for an age.

broom BRY'UM *ſcopa'rium.* Capſules nearly upright. Fruit-ſtalks incorporated. Leaves pointing one way; bowed back. Stem declining.—

Dill. 46. 16.—*Curt.* i. 7.—*Vaill.* 28. 12.—*Buxb.* ii. 4. 1.—*Hedw. hiſt.* ii. 8. 41.—*Fl. dan.* 824. 1.

Fruit-ſtalks about 2 inches long; in the young ſhoots terminating; in the full-grown ſhoots in the boſom of the branches. NECK.—Grows in denſe patches, branched, nearly upright, 1 to 3 inches high. *Leaves* ſlender, long, ending in a long ſharp point, expanding. *Fruit-ſtalks* 1 or 2 inches high, generally ſolitary. *Capſules* cylindrical, thick, a little crooked, ſcored. *Lid*, beak as long as the capſule. *Mouth* toothed. *Veil* long. WEIS.—Frequently ſeveral fruit-ſtalks in one empalement. WILLDENOW.

Heaths, woods, trunks of trees, ſhady banks, and dry paſtures.

P. Feb. and March. CURT.—June and July. HUDS.—April —July. LIGHTF.

β *H. ox.* xv. 7. 11 *and* 13.

Splachnum BRY'UM *ſplachnoi'des.* Capſules upright, inverſely egg-ſhaped, toothed. Excreſcence roundiſh. Leaves ſtrap-briſtle-ſhaped. DICKS. ii. 5.

Fl. dan. 538. 2.

Leaves numerous, upright, open, ſome bowed back. *Empalement* ſmall, hunched, beneath the capſule. DICKS.

On rocks on Ben Nevis, Scotland.

ſtarry BRY'UM *ſtella'tum.* SCHREB. *lipſ.* 80. *n.* 1040.—Stemleſs. Capſules upright, pointed, bearded. Leaves egg-ſpear-ſhaped, pointed, ſomewhat rolled in. DICKS. ii. 6.

Dill. 49. 56.

On ditch banks and brinks of rivulets, Scotland.

ſtarry BRY'UM *ſtellig'erum.* Capſules upright, ſemi-globular, naked. Leaves ſtrap-ſhaped, in ſtar-like whorls. DICKS. ii. 3.

Dickſ. 4. 4. *a. b.*

Shoots branched, ſtar-like at the end. *Leaves* expanding, a little bowed back at the ends; ſomewhat whorled. *Fringe* naked. *Lid* flattiſh, the beak ſomewhat oblique; as long as the capſule. DICKS.

Woods in the Highlands.

BRY'UM

BRY'UM *ſubula'tum.* Capſules upright, awl-ſhaped. Shoots ſtemleſs.— *awl-ſhaped*

Curt. iii. 36.—*Fl. dan.* 1000. 2.—*Vaill.* 25. 8.—*Hedwig. hiſt.* ii. 7. 38 *and* 39, *capſule magnified.*—*Dill.* 45. 10.—*Buxb.* i. 63. 2; ii. 2. 3 *and* 4.

Fruit-ſtalks 1 to 1½ inch long, yellowiſh. NECK.—Grows crowded together; but little branched, terminating in roſes. *Fruit-ſtalks* an inch or more in length, purpliſh, ſhining, ſtraight, twiſted. *Capſules* cylindrical, ſlender, 3 or 4 lines long, becoming crooked when dry, ripe in ſummer. *Leaves* pellucid, pale green, with or without hairs. WEIS and DILL.—*Plant* from 3 to 5 lines high. *Fruit-ſtalks* ſometimes in pairs. *Veil* permanent, SCOP.—nearly as long as the capſule.

Moiſt banks, woods, and walls. P. Jan.—May.

BRY'UM *tetrago'num.* Capſules nearly upright, ſomewhat globular. Shoots 4-cornered, the younger between climbing and zigzag. Leaves preſſed to, ſtrap-awl-ſhaped. DICKS. ii. 8. *ſquare*

Dickſ. 4. 9. *a. b.*

Full grown ſhoots upright, with leaves diſpoſed in 4 rows, blackiſh, yellowiſh green above, ſometimes ſending out young ſhoots from the ends; *young ſhoots* zigzag like a climbing plant, reddiſh. *Leaves* of the full grown ſhoots very cloſely tiled, preſſed to, upright, ſtrap-ſhaped, awl-ſhaped towards the ends; thoſe of the young ſhoots minute egg-ſhaped, few. *Capſules* upright, ſomewhat oblique, mouth contracted. *Fringe* with a ring. DICKS.

Ben Lomond, Scotland.

BRY'UM *tortuo'ſum.* Capſules upright. Leaves briſtle-ſhaped, without hairs, curled when dry.— *twiſted*

Dill. 48. 40.—*Hall. enum.* 4. 2, *at p.* 118, *repr. in hiſt.* 45. 2, *at* ii. *p.* 41.—*Fl. dan.* 880. 1.—*Scheuch. it.* ii. 19. 5, *cop. in Pet. gaz.* 65. 8.

Leaves when dry curled and becoming dark coloured. LINN. *ſuec. n.* 1000.—*Fruit-ſtalks* terminating on the young, lateral on the old ſhoots. NECK.—Grows in denſe criſp patches. *Shoots* upright, adhering together, near an inch high. *Leaves* a line or 1½ line long. *Fruit-ſtalks* from the forks of the branches, ſtraight, 3 to 7 lines long, cloſely claſped at the baſe by the empalement. *Capſules* cylindrical, ſmooth. *Ring* none. *Mouth* fringed. *Lid* awl-ſhaped, ſtraight. *Veil* ſmooth, extending but half way down. POLLICH.—One to 1½ inch high, ſomewhat branched. *Leaves* very numerous, ſlender, crooked, curled when dry, fine green, dull yellow when old. *Veil*

ſlender, pale green, changing to brown. *Capſules* nut-colour when ripe. DILL.

Heaths, rocks on mountains, and woods.

bog BRY'UM *tricho'des.* Capſules nearly upright, the mouth fringed, without a ring. Fruit-ſtalk very long. LINN. — Leaves ſtrap-tongue-ſhaped, blunt. Capſule pear-ſhaped, crooked. DICKS. ii. 7.

Hedwig. ſtirp. i. 1 *and* 2; *hiſt.* ii. 9. 56. 57.—*Dill.* 49. 58.

Shoots on very ſhort ſtems. *Fruit-ſtalks* 3 inches long. *Capſules* dull yellow, inverſely egg-ſhaped. *Lid* blunt. Growing in patches. *Leaves* ſcattered, 2 lines or more in length. *Empal.* none. *Fruit-ſtalks* terminating. *Capſules* upright, afterwards bending a little, 1 line long. *Lid* ſhort, pointed, white. *Veil* ſmooth, reaching but half way down. POLLICH.—Primary ſtem not branched, but after bearing fruit it ſends out a new ſhoot from its extremity, as is the caſe with many Moſſes with terminating fruit-ſtalks. Chives and pointals in the ſame flower, or in ſeparate flowers. *Ring* none. *Fringe* double, 16 teeth in each. The roots are ſo cloſely attached together, that without great care it breaks off, and the plant appears without a ſtem; HEDWIG.—ſhort, ſitting, ſometimes undivided, ſometimes with 1 or 2 branches. *Leaves* green, narrow. *Fruit-ſtalks* about 2 inches high, of a ſhining gold colour. DILL.

Wet meadows, in denſe patches. May, June. P.

brown BRY'UM *truncat'ulum.* Capſules upright, roundiſh. Lid ending in a ſharp point.—

Curt. ii. 22. 2.—*Hedw. ſtirp.* 5; *theor.* 9. 15.—*Dill.* 45. 7.—*Vaill.* 26. 2.—*Buxb.* ii. 2. 2.—*Fl. dan.* 537, *bad.*

Capſules, when the lid is fallen off, appearing quite lopped, inverſely egg-ſhaped, and yelloviſh red, therefore evidently diſtinct from the *B. viridulum.* LINN.—*Fruit-ſtalks* 3 or 4 lines long. *Capſule* without a ring. NECK.—One of the leaſt of the Moſſes; grows in patches. *Stem* 3 or 4 lines long, unbranched, ending in roſes. *Leaves* terminated by a minute white hair. *Fruit-ſtalks* terminating, generally ſolitary. *Capſules* egg-ſhaped. *Lid* with a long ſlender point. *Veil* with a long taper point. WEIS.—*Sheathing empalement* conical, lopped. HEDWIG.

Ditch banks, meadows, paſtures, and heaths. A. Sept.—Feb.

Haſſelquiſt obſerving this plant growing in great abudance upon the walls of Jeruſalem, conjectures it may be the Hyſſop of the ſcripture, wherein Solomon is ſaid to have known all plants, from the Cedar of Lebanon even unto the Hyſſop, that groweth upon the wall.

BRY'UM

BRY'UM *undula'tum*. Capſules nearly upright. Fruit-ſtalks moſtly ſolitary. Leaves ſpear-ſhaped; keeled; waved; expanding; ſerrated.— *curled*

Curt. i. 6.—*Hedw. ſtirp.* 1. 16.—*Dill.* 46. 18.—*Vaill.* 26. 17.—*H. ox.* xv. 7, *row* 1*ſt*, 9.—*Hedw. ſtirp.* 17, *is variety* β, *but equally well repreſents the parts of fructification of the plant in queſtion.* —*(Fl. dan.* 477, *ſeems to be* β *of Hedwig.)*

Shoots rarely branched. *Fruit-ſtalks* 1 or 2 from the end of each ſhoot. NECK.—*Stem* 1 to 3 inches, upright, unbranched. *Leaves*, the upper ones largeſt, viz. 2 or 3 lines long, and 1 broad. *Fruit-ſtalks* terminating, upright, 1 to 2 inches high; ſometimes 2 together. *Capſules* oblong, leaning, bent. *Lid* ſharp-pointed, marked with a ſcarlet circle. WEIS.—*Sheathing* empal. pyramidal, its top cloſely embracing the fruit-ſtalk. *Veil* cylindrical, ſplitting on one ſide. *Capſules* cylindrical. *Lid* convex; beak very long. *Fringe* of 32 teeth; ſingle. HEDWIG.—*Stem* in part buried in the ground. *Leaves* deep green, thin, pellucid, very finely ſerrated, ſoon curling up when the plant is gathered. DILL.

Shady banks, woods about the roots of trees, and heaths.

Aug.—Febr. P.

BRY'UM *unguicula'tum*. LINN.—Capſules upright, oblong. Lid taper-pointed, oblique. Leaves ſtrap-ſpear-ſhaped, keeled. HUDS. *birds-claw*

Hedw. ſtirp. i. 23, *hiſt.* ii. 4. 20, *a lid.*—*Dill.* 48. 47.—*Buxb.* ii. 2. 9.

Shoots forming patches, about ½ an inch high; ſometimes branched.—*Leaves* open, near a line in length and ¼ in breadth. *Fruit-ſtalks* terminating. *Capſule*, ring none. *Veil* ſmooth, reaching but half way down the capſule. POLLICH.—*Leaves* expanding when moiſt, twiſted when dry. *Barren* and *fertile* flowers on ſeparate ſhoots, terminating. *Sheathing* Empal. conical. *Fruit-ſtalks* 1 or 2 together, about ½ an inch long, upright. *Ring* none. *Fringe* ſcattered when dry, ſpirally twiſted together when wet. HEDWIG.—*Leaves* green, keeled, opake. *Capſules* oblong, thickeſt at the baſe, green, changing to brown. DILL.

Walls and ſandy places. [Bungay, Suffolk. Mr. STONE.] Clay walls. HEDW. A. March, April.

BRY'UM *verticilla'tum*. Capſules upright. Fruit-ſtalks twiſted when dry. Leaves ending in hairs. Shoots all of the ſame height.— *whorled*

Dill. 47. 35.

Grows in denſe tufts. *Stems* ſlender, adhering cloſely together, about an inch high; branched. *Leaves* hair-like, fine pale green, towards the bottom of the plant whitiſh. *Fruit-ſtalks* numerous, ſhort, pale, terminating. *Capſules* ſmall, roundiſh, greeniſh. *Lid* very ſmall, red, pointed. DILL.

Haller unites it with the *B. æſtivum*. LINN.

In Yorkſhire. RICHARDSON *in Dill.* On rocks near the ſea, Bangor. BREWER *in Dill.* P. April—Auguſt.

greeniſh BRY'UM *vi'rens*. Capſules upright, oblong. Leaves awl-ſhaped, quite ſtraight. DICKS. 4.

Curt. ii. 22.—*Hedw. ſtirp.* 3. 5.—*Dill.* 48. 43.—*Vaill.* 29. 5.

Leaves curling up in drying. DICKS.—So ſmall as hardly to be diſcernible if it did not grow in large patches. *Stems* 1 to 3 lines long, upright, ſeldom branched. *Leaves* very ſlender, ſharp at the ends. *Fruit-ſtalks* terminating the laſt year's ſhoots, 1 or 2 on a ſhoot. *Capſules* egg-ſhaped, fringed at the mouth. *Lid* red, pointed. *Veil* pointed. WEIS.—*Fruit-ſtalks* green, changing to a pale yellow. *Capſules* from green to yellow brown, and ſhining. *Veil* ſlender, the colour of the capſule. *Lid* very ſhort, reddiſh, its point bent. DILL.

B. viridulum. Hudſ. 478. Lighf. 731. Curt.

Meadows, ditch banks, and road ſides. A. Dec.—March.

green BRY'UM *virid'ulum*. Capſules upright, egg-ſhaped, Leaves ſpear-ſhaped, taper-pointed, between tiled and open. LINN.—Stemleſs. Capſules oblong. Lids taper-pointed, reſembling a bird's claw. DICKS. 3.

Dickſ. 1. 5.

Leaves very green, curling up in drying. LINN.—Whole *plant* ſcarcely more than the 8th of an inch high, the ſmalleſt of this Genus which I have hitherto ſeen. *Leaves* 3 or 4, when viewed through a magnifying glaſs ſtrap-ſpear-ſhaped, ribbed underneath. *Fruit-ſtalk* yelloviſh, ſometimes 2 from the ſame point. *Capſule* upright, oblong, ſomewhat cylindrical, browniſh when ripe, with a ſwoln red ring. *Lid* taper-pointed, ſomewhat crooked, nearly as long as the capſule. *Veil* oblique, minute. *Fringe* toothed; teeth numerous, bent in. Differs from *B. paludoſum* in the leaves not being briſtle-ſhaped, and in the ſhape of the capſule. DICKS.

B. viridulum. LINN.—That it is ſo I am ſatisfied from ſpecimens in the Linnæan herbarium. But all modern authors miſled by the erroneous ſynonyms given by Linnæus have ſuppoſed another ſpecies to be the Linnæan *viridulum*. [See *B. virens*.] DICKS.

Boggy ground on Enfield Chace. June.

BRY'UM

BRY'UM *Wei'ſia.* Capſules upright, oblong, egg-ſhaped, with a ring, fringed. Leaves pointing one way, ſtrap-awl-ſhaped, ſtiff. DICKS. ii. 5. *Weis's*

Hedw. 1. 8.

Stem upright. *Leaves* awl-ſhaped, but broad and ſheathing at the baſe, rigid, not curling up when dry. *Empal.* ſheathing. *Fruit-ſtalk* terminating, always longer than the ſtem, nearly upright. *Veil* ſlender, upright. *Lid* a blunt cone. *Fringe* ſingle, of 16 teeth. HEDWIG.

Woods and ſandy places. May, June.

*** *Capſules on Fruit-ſtalks; pendant.*

BRY'UM *alpi'num.* HUDS. and LINN.—Capſules pendant, oblong. Leaves tiled, egg-ſhaped, pointed, keeled. Shoots branched. Fruitſtalks from the diviſion of the branches. HUDS. *alpine*

Dill. 50. 64.

Grows denſely compacted; variouſly branched; branches irregular in length. *Leaves* very numerous, oblong, keeled, ſtraight, ſpit-pointed, opake, ſmooth, ſhining, purpliſh green, but in old plants dark purple below, dark red above. Barren branches taper at the end, thoſe with fruit-ſtalks broader. *Fruit-ſtalks* an inch high, dark red purple, iſſuing from a large purple tubercle. *Veil* purpliſh. DILL.

Rocks covered with a thin layer of earth in the ruins of an old caſtle near Llanberris. DILL.—Highland mountains. LIGHTF. ST. P. April—June.

BRY'UM *argen'teum.* Capſules pendant. Shoots cylindrical, tiled, ſmooth.— *ſilver*

Dill. 50. 62.—*Curt.* iii. 28.—*Fl. dan.* 880. 2.—*Vaill.* 26. 3.—*H. ox.* xv. 6. *row the laſt,* 17.

Grows in patches, about ½ an inch high, dividing into cylindrical ſhoots 2 or 3 lines long. *Leaves* egg-ſpear-ſhaped, ending in hairs, but ſo preſſed to the ſtem as hardly to be diſcernible to the naked eye. *Fruit-ſtalks* from the baſe of the ſhoots, near ½ an inch high. *Capſules* egg-ſhaped, upright when green, pendant when ripe. *Lid* ſhort, blunt. *Mouth* fringed. *Veil* deciduous. WEIS.—In autumn and early in winter green, afterwards ſhining ſilvery white, eſpecially when dry, which circumſtance alone is ſufficient to diſtinguiſh it from all other Moſſes. DILL.

Sunny banks, walls, roofs, and rocks. P. Oct.—Feb.

β LINN.—Shoots greener. Leaves not hairy.

Dill. 50. 63.

Pale

Pale or darker green, ſometimes ſhining. *Leaves* more crowded than in α, not hairy. *Capſule*, mouth not fringed. DILL.

On the gravel walks of the Oxford Phyſic Garden. DILL.

Jan.—March.

matted BRY'UM *cæſpitic'ium*. Capſules pendant. Leaves ſpear-ſhaped, tapering to a briſtly point. Fruit-ſtalks very long.—

Hedw. hiſt. ii. 10. 66, 67. 3. 12.—*Curt.* iii. 28.—*Dill.* 50. 66. —*H. ox.* xv. 6. *row* 5. 15.—*Vaill.* 29. 7.

Fruit-ſtalks red at bottom, yellow green at top. REYG.—*Shoots* crowded. *Leaves* pellucid. *Capſule*, mouth fringed. NECK.—Grows in broad denſe patches. Only a few lines high; branched at the top, covered with a brown knap at bottom. *Leaves* very ſmall, crowded, ſhining. *Fruit-ſtalks* an inch high, iſſuing from the roſes of laſt year's ſhoots, ſurrounded at bottom with a leafy ſheath or fence. *Capſule* at firſt upright; ſlender egg-ſhaped. *Lid* red, ſhining, nipple-ſhaped. *Mouth* ſlightly fringed. *Veil* brown, changing to tawney red. WEIS.

Old walls, ſtones, roofs, graſs, gravel, banks, and hillocks.

P. Feb.—April.

ſhining BRY'UM *car'neum*. Capſules pendant; ſomewhat globular. Leaves pointed, alternate.—

Hedwig. ſtirp. 1. 20.—*Dill.* 50. 69.—*Buxb.* ii. 2. 5 *and* 6. —*Hall. enum.* 4. 6, *at p.* 118, *repr. in hiſt.* 45. 6, *at* iii. *p.* 41.

Shoots upright, ſingle, or in tufts, dividing into ſeveral branches 4 or 5 lines long. *Leaves* ½ or 1 line long, ½ broad, not hairy at the end, very entire. *Fruit-ſtalk* terminating the ſhoots and the branches, 3 or 4 lines long. *Capſules* roundiſh, egg-ſhaped. *Ring* none. *Lid* ſhort, bluntiſh. *Veil* ſmooth, reaching but half way down. POLLICH.

Moiſt watery places and paſtures. [Wet drains near the bath, Ditchingham, Norfolk. Mr. STONE.]

Summer. DILL.—March, April, HUDS.

β HUDS.—Capſules green. Branches and fruit-ſtalks longer. *R. ſyn. p.* 102. *n.* 52.

Dill. 50. 69. *G*,

Yorkſhire, Mr. RICHARDSON.

gigantic BRY'UM *cubita'le*. Capſules pendant, club-ſhaped, oblong. Shoots and fruit-ſtalks bent inwards. Leaves arrow-ſhaped, pointed, bordered. DICKS. ii. 9.

Dickſ. 5. 2.

The

The largeſt of all the Bryums. *Shoots* ſomewhat branched, rather recumbent at the baſe. *Leaves* expanding, taper-pointed, with a thick rib and reddiſh edge. *Fruit-ſtalk* terminating, very long, a little below the baſe bent in with an elbow-like bending, of a gold coloured reddiſh brown, brightly glittering. *Capſule* depreſſed and pendant, club-ſhaped, very long. *Fringe*, teeth numerous, upright. DICKS.

On moiſt banks in the Scotch mountains, near Aberfeldy.

BRY'UM *elonga'tum*. Capſules between ſlanting and upright, lengthened out at the baſe. Leaves ſtrap-ſpear-ſhaped. DICKS. ii. 8. *elongated*

Hedw. ſtirp. i. 36.

Hardly ½ an inch high, upright. Barren and fertile flowers terminating, but on different plants. *Fruit-ſtalk* ſtraight, upright, but a little bent at the top by the weight of the capſule. *Capſule* oblong, leaning, its lower part a cellular ſubſtance, not containing ſeeds. *Lid* convex, beak ſhort. *Mouth* with a double fringe, 16 teeth in each. HEDWIG,

Woods near Loch Neſs, Scotland. May.

BRY'UM *margina'tum*. Capſules nodding. Lid beaked. Leaves egg-ſpear-ſhaped, pointed, finely toothed, bordered. DICKS. ii. 9. *bordered*

Dickſ. 5. 1. *a. b.*

Shoots moſtly ſimple. *Leaves*, teeth remote, the midrib and edge red and thick. *Fruit-ſtalks* ſolitary. *Capſ.* half egg-ſhaped. *Lid* conical. *Veil* awl-ſhaped. DICKS.

Paſtures, Scotland.

BRY'UM *pulvina'tum*. Capſules roundiſh. Fruit-ſtalks bent down. Leaves ending in hairs.— *pincuſhion*

Hedw. theor. 13. 51 *to* 56, 14, 57 *to* 62.—*Dill.* 50. 65, *cop. with the capſule magnified in Happ.* iii. *Bryum* 1.—*Vaill.* 29. 2.—*Pet. gaz.* 95. 15.—*H. ox.* xv. 6, *row the laſt*, 21. *p.* 629.

Grows in a tuft or round cuſhion. *Fruit-ſtalks* green, ſhort, bowed back, ſo that the capſule preſſes upon the leaves. *Capſ.* egg-ſhaped. *Veil* very thin, very ſhort, barely covering the lid. *Lid* taper-pointed. LINN. *fl. ſuec. n.* 993, *under B. murale*. *Fruit-ſtalks* bending down ſo that the capſules are buried in the foliage; but in ſome ſtages of growth they are upright. NECK.—Grows in circular convex denſe patches, about ½ inch high. *Shoots* branched, branches thickeſt upwards. *Leaves*, the lower ones brown and without hairs. *Fruit-ſtalks* terminating, very ſhort, at firſt upright, but as the capſule

capsule ripens bending down. *Mouth* toothed. *Veil* deciduous. *Lid* short, pointed. WEIS.

Walls and roofs, the most common of all the Mosses.

March—April.

bowed BRY'UM *recurva'tum*. Capsules roundish, pendant. Leaves bristle-shaped. DICKS. ii. 7.

Hedw. i. 38.—*Jacq. Misc.* ii. 12.

Original stem hardly ½ a line in height; very brittle when dry. *Leaves* expanding, lower ones spear-shaped. *Barren* flowers in the bosom of the leaves. *Fruit-stalks* terminating, at first straight, then arching downwards, becoming straighter again when old and dry. *Capsule* pear-shaped. *Lid* convex, beak slender, crooked. *Fringe* single, with 16 teeth. *Veil* splitting at the side, bent like the beak of the lid. HEDWIG.

Barren grassy places. Calcareous rocks. Spring—Autumn.

silky BRY'UM *seric'eum*. Capsules pendant, oblong. Leaves spear-shaped, pointed, keeled. HUDS. 487.

Hedw. hist. i. 4. 16 *to* 19; ii. 6. 28, *a seedling plant.*—*Dill.* 50. 61.—*Hedw. stirp.* i. 4.

About ½ an inch high. *Chives* and *pointals* in the same flower. *Fruit-stalk* from 1 to 2 inches high. *Capsules* pendant, but after discharging their seeds upright. *Lid* convex, beak very short. *Mouth*, fringe double, each of 16 teeth. HEDWIG.—*Stems* short. Lower leaves few, shrivelled, brown. Upper leaves fine pale green. Plants without capsules taller. DILL.

Woolwich Heath, and Snowdon, about Llanberris; on Ingleborough, and in other places in Yorkshire. P. March—July.

simple BRY'UM *sim'plex*. Capsules nodding, oblong. Leaves awl-shaped. Stem undivided. Fruit-stalk from the middle of the stem.—

Hedw. stirp. ii. 34.—*Dill.* 50. 59.—*H. ox.* xv. 7, *row* 2. 19.—*Buxb.* iv. 65. 2.

Shoots ½ an inch long. *Fruit-stalks* coloured, standing on the ends of the young shoots, but on the rib of the old ones. NECK.—Not branched, often 1 inch long, growing in patches. *Leaves* crowded at the ends of the stem, hair-like, not crisp when dry. *Fruit-stalks* 1 or 2 together, 8 or 9 lines long. *Capsule* inversely egg-shaped. POLLICH.—*Lid* rather broader than the capsule, beaked. *Mouth* elegantly toothed, DILL.—with 16 teeth in a single row, purplish. HEDWIG.

B. rubrum.

B. rubrum. Hudſ. ed. i. 413.
Graſſy ſandy places. A. March—May.—P. Hedwig.

BRY'UM *ventrico'ſum.* Capſules pendant, bellying, oblong. Leaves pointing 3 ways, expanding, awl-ſpear-ſhaped, keeled. Shoots branching. Dicks. 4. *bellying*

Hedw. hiſt. ii. 4. 21, *the ring*; 16, *the lid.*—*Dill.* 51. 72.—*Vaill.* 24. 2 *and* 2.—*H. ox.* xv. 6, *row* 5. 20, *from a dried ſpecimen.*

Capſule, the neck downwards becomes gradually narrower. Dicks. —*Stems* ſimple or branched; branches ſometimes very ſlender, at others thicker and ſhorter; thickeſt where the fruit-ſtalks put forth, the leaves there expanding in the form of ſtars. *Fruit-ſtalks* near 2 inches long, purple. *Capſules* bent downwards, bellying, green. *Lid* ſmall, ſhining white. *Veil* ſhort, brown red. Dill.

Bryum triquetrum. Hudſ.—*Mnium triquetrum* according to Lightf. 715, Hudſ. and Relh. n. 786, but in the ſpecimens of *Mnium triquetrum* in the Linnæan herbarium and Ehrhart's phytophyllacium the capſules are upright ſlanting. Dicks.—*Leaves* ſpear-ſhaped, alternate. *Fruit-ſtalks* red, ſometimes branched. *Leaves* pellucid, green, ſhining. When about to flower it ſends forth ſome reddiſh ſhoots, with finer leaves encompaſſed by others of a paler green. Flowers in the ſummer. Dill.

Turf bogs and marſhy places. [Turf pits, Ellingham Fence, Norfolk. Mr. Stone.] March—May.

β *Dill.* 51. 73.

Bryum triquetrum β Hudſ. 490.

In marſhy places. The *red* kind is found in the mountain torrents of Snowdon, and the *green* in high boggy heaths about London and Oxford. Dill. Summer.

γ Shoots proliferous.

Dill. 51. 74.

Shorter than the preceding. *Capſules* pear-ſhaped, *i. e.* largeſt at the end. *Leaves* deeply keeled, cloſing together when dry, very much crowded and compreſſed. Stem and leaves at the bottom black. *Lids* very ſhort and blunt. Dill.

Mnium triquetrum γ Hudſ. 491.

Marſhy places. On Shooter's Hill near Eltham, and in Wales. Spring and Summer. Dill.

BRY'UM *Zie'rii.* Capſules pendant, club-ſhaped, long. Shoots cylindrical. Root-leaves expanding, longer than the ſtem-leaves. Dicks. ii. 8. *Zier's*

Dickſ. 4. 10, *the capſules repreſented as terminating.*

Shoots

Shoots ſimple, upright, pointed, of a fleſh-coloured whitiſh hue, green towards the end. *Leaves* cloſely tiled, preſſed to, egg-ſhaped, pointed, ribleſs, tranſparent, the ends when dry reclining. *Root-leaves* ſurrounding the ſhoots, expanding, ſpear-ſtrap-ſhaped, with a rib, taper-pointed, thrice as long as the reſt. *Fruit-ſtalk* from the baſe of the plant, thrice as long as the ſhoots. *Capſule* depreſſed-pendant, when moiſt rather upright, on a crooked fruit-ſtalk, in the dry plant club-ſhaped, very much elongated and tapering at the baſe, the ſurface ſomewhat granulated. *Fringe* with many teeth. *Lid* ſhort pyramidal. *Veil* not obſerved. DICKS.

Moiſt banks in the Highlands. Near Aberfeldy. [Crib y Ddeſcil, Caernarvonſhire. October. Mr. GRIFFITH.]

1312. HYP'NUM. Feathermoſs.

ESS. CHAR. *Capſule with a lid. Veil ſmooth. Fruit-ſtalk from the ſides of the ſtem or branches, ſurrounded by an Empalement at the baſe.*

* *Leaves winged.*

upright HYP'NUM *adiantoi'des*. Plant winged; branched; upright. Fruit-ſtalks from the middle of the branches.—*Dill.* 34. 3.—*Vaill.* 28. 5.—*Buxb.* ii. 1. 4.

Two or three inches long, ſtraight; wings 12 to 16 pair. *Fruit-ſtalks* 1 inch high. NECK.—Branched from the baſe. *Leaves* not pointed. *Capſules* leaning. *Lid* red. *Veil* as long as the capſule. SCOP.—In this ſpecies, as well as in the *H. taxifolium* and *bryoides*, the leafits are folded together lengthways, but not quite to the end. In this and the *H. taxifolium*, the leafits are ſerrated at the ends, but in the *H. bryoides* taper-pointed and very entire. LEERS.—Upright, branched. *Leaves* ſhining. *Fruit-ſtalks* red, lateral. *Capſules* brown-iſh, turning red. *Lid* ſcarlet, pointed. DILL.

Bogs, moiſt heaths and moors. P. March—April.

ſpleenwort HYP'NUM *aſplenioi'des*. SWARTZ.—Plant winged, moſtly ſimple, ſtrap-ſhaped. Fruit-ſtalks terminating. Capſules ſomewhat bowed in, toothed. DICKS, ii, 10. *Dickſ.* 5. 5.

Habit that of *H. adiantoides*, but ſmaller, and the fruit-ſtalk always terminating. *Leaves* tiled at the baſe, almoſt embracing the ſtem, ſpear-ſhaped, bluntiſh, ſomewhat keeled, the mid-rib reddiſh, ſometimes

times rolled in at the ends. *Lid*, the beak oblique, white, as long as the capſule. DICKS.

Bogs in the Highlands, near Ben Lomond.

HYP'NUM *bryoi'des*. Plant not branched; ſhoots ſpear-ſhaped, winged. Fruit-ſtalks terminating.— *fern-leaved*

Hedw. theor. 11. 36 *to* 41.—*Dill.* 34. 1.—*Vaill.* 24. 13.—*Fl. dan.* 473. 1.—*H. ox.* xv. 6. *row* 4. 11.—*Buxb.* i. 64. 3.

Very ſmall, but diſtinguiſhed by its *Capſules* edged at the mouth, with a deep red fringe. LINN.—The ſmalleſt of the Genus. *Shoots* 2 or 3 lines long. *Leafits* 7 or 8 pair. *Fruit-ſtalks* as long, or longer than the ſhoots, generally ſolitary. *Capſules* upright, egg-ſhaped. WEIS.—Many growing together as if from one root, but each plant has its ſeparate root, though ſometimes 2 or 3 ſhoots ſpring from one root. *Shoots* not branched, ſhort, reclining. *Leaves* green, not pellucid. *Capſules* ſmall, upright, oblong, green. *Veil* very ſmall, greeniſh. *Lid* ſcarlet. *Fruit-ſtalks* reddiſh, iſſuing from near the end of the ſhoots, and without any evident Empal. DILL.

Shady places, woods, and ditch banks. A. Feb.—May.

HYP'NUM *complana'tum*. Plant winged; branched; leafits tiled; pointed; folded; compreſſed.— *flat*

Hedw. hiſt. ii. 10. 62.—*Dill.* 34. 7.—*Vaill.* 23. 4; *and* 21. 17.—*H. ox.* xv. 5. *row* 2. 5; *and row* 3. 15.—*(Fl. dan.* 706. 1, *in the Index at the end of faſc.* xiii. *p.* 5, *is an error.)*

Leafits ſmaller towards the ends of the ſhoots. *Fruit-ſtalks* from the baſe. *Capſule* oval, upright. NECK.—*Fruit-ſtalks* 10 to 12 lines long. *Capſules* leaning; mouth fringed. NECK.—Forming broad leafy ſtrata on the trunks of trees. Plant from 1 to 3 or 4 inches long, creeping. *Leafits* alternate, in 2 rows, in the young ſhoots very cloſely crowded. *Fruit-ſtalks* ½ an inch high, numerous on the mid-rib, or from the forks of the branches. *Fence* large, hairy. *Capſules* egg-ſhaped. *Lid* conical, beaked. *Veil* bent. WEIS.—*Shoots* very much branched, flatted. *Branches* ſlender, thread-ſhaped. WEBER.—Two or three inches long. *Branches* oppoſite or alternate. *Leaves* ſoft, pellucid, yellow green, ſhining. *Empal.* ſcaly, *Veil* ſlender, whitiſh, crooked. DILL.

Trunks of trees. P. March, April.

β HUDS. — Branched and ſhining. — Branches bent at the ends. WITH.

Dill. 34. 8.

Adheres

Adheres leſs cloſely than the preceding, the branches convex above, concave underneath, leſs compreſſed, ſhorter, blunter, more bent at the ends. DILL.

On trees, and alſo on the ground. Feb.

double-rowed HYP'NUM *denticula'tum.* Plant ſimple, winged; with a double row of leafits on each ſide. Fruit-ſtalks from the baſe of the leaf.—

Dill. 34. 5.—*H. ox.* xv. 6. *row* 1. 36.—*Vaill.* 29. 8.

Plant trailing; from 1 to 2 inches long. *Capſ.* mouth fringed. NECK.—Points of the leafits bent back. WITH.—*Leafits* triangular egg-ſhaped, hooked. WEBER.—Shoots ſeveral, lying on the ground, ½ to 1½ inch long, ſeldom branched. *Leaves* in a double row on each ſide, ſoft, pellucid, ſhining, pale green, pointed and bent back towards the end.—*Fruit-ſtalks* from the baſe of the ſhoots, reddiſh, an inch or more in length. *Capſules* oblong, ſtraight, covered by the veil, which is of a ſtraw colour; becoming bent as it approaches to maturity. *Lid* ſhort. DILL.

Woods, and moiſt ſhady places on the ground, and on trunks of trees. P. March, April.

wood HYP'NUM *ſylvat'icum.* Plant winged; branched; trailing. Leafits pointed. Fruit-ſtalks from the middle of the leaf.—

Dill. 34. 6.

Shoots branched. Branches undivided, few, not ſhining. *Fruit-ſtalks* lateral. *Lids* of the capſule pointed. DILL.

Woods at the roots of trees. [Rivelſton Wood near Edinburgh. Dr. J. E. SMITH.—Near Bungay, Suffolk. Mr. STONE.]

P. April, May.

yew-leaved HYP'NUM *taxifo'lium.* Plant not branched; ſhoots ſpear-ſhaped, winged. Fruit-ſtalks from the baſe of the ſhoots.—

Dill. 34. 2.—*Vaill.* 24. 11.—*Fl. dan.* 473. 2.

Fruit-ſtalks 8 or 10 lines high. *Capſ. lid* very red. NECK.—*Leafits* about 12 pair on each ſhoot, when young; more in the older ſhoots. *Fruit-ſtalks* ½ an inch high, fenced at the baſe. *Capſules* near cylindrical, nodding, broadeſt at the mouth. *Mouth* toothed. *Lid* beak long. *Veil* turned up at the end. WEIS.—*Leaves* ſpear-ſhaped, with a point at the end. WEBER.—*Shoots* ſeveral from one root, not branched; dark green. *Empal.* at the baſe of the ſhoots, compoſed of a few ſcales. *Lid* ſcarlet, beak pointed, crooked. *Veil* pale. DILL.

Woods, hedges, and ſhady banks. Feb.—May.

** *Shoots*

** *Shoots irregular, ſtraggling.*

HYP'NUM *al'bicans*. Shoots nearly upright, ſlender, ſomewhat branched. Leaves ſpear-briſtle-ſhaped, laid-to. DICKS. 6. *whitiſh*

Dill. 42. 63.

Shoots about 2 inches long, ſcattered, almoſt upright, but little branched, yellowiſh green mixed with white. *Leaves* ſpear-ſhaped, briſtly at the end, everywhere ſurrounding the ſtem. *Fruit-ſtalks* lateral, ½ inch high, upright, red; but rarely found. *Capſules* ſmall, oval, oblique, rather nodding; yellow red. *Lid* ſhort. *Mouth* fringed. DICKS.—Scarcely upright, not crowded together, a little branched, ſhoots ſlender, yellowiſh pale green. *Leaves* ſlender, preſſed to, ſoft, ſhining. *Empalement* hairy. DILL.

In looſe ſandy ſoil on heaths, and places thinly clothed with graſs, but ſeldom with capſules. DILL. 329.—[Bungay Common, Suffolk. Mr. CROWE. Mr. STONE.] May.

HYP'NUM *chryſo'comum*. Shoots upright, branched. Leaves oblong-ſpear-ſhaped, pointed, with many ribs; open and rather bowed back. DICKS. ii. 12. *yellow*

Dill. 39. 36.

Shoots thick, hairy, woolly on the lower and middle part. *Leaves* crowded, bent back, dull green. I have not ſeen it in fruit. DILL.—The fuſcous woolly matter which ſurrounds the ſhoot is a conſtant attendant. *Fruit-ſtalks* at the baſe of the branches, golden red, hardly ½ inch long, crooked. *Capſule* golden yellow, globular. Mr. BRADBURY.

In bogs in the northern parts of Yorkſhire, and in moiſt places on Glyder Mountain. DILL.—Boggy places in Scotland. DICKS. [On bogs with the Mnium *paluſtre* in Greenfield, Saddleworth, Yorkſhire, and Stayley, Cheſhire. Nov. Mr. BRADBURY.]

HYP'NUM *criſ'pum*. Shoots branched; branches ſomewhat winged. Leafits waved; flat.— *curled*

Dill. 36. 12.—*Hedw. hiſt.* ii. 8. 47.—*Hall. enum.* 3. 5, *at p.* 109, *repr. in hiſt.* 46. 5, *at* iii. *p.* 56.—*Happ.* ii. *Hypn.* 5.—*H. ox.* xv. 5. *row* 3. 10, *p.* 625.

The moſt elegant of the Genus. Grows in denſe broad ſtrata. *Shoots* a ſpan long, flat, a little raiſed. *Leafits* cloſely tiled, alternate, in 2 rows, ſpear-ſhaped, blunt, ſhining, wrinkled. *Fruit-ſtalks* ½ inch long, lateral. *Fence*, leaves paler. *Capſules* nearly upright, egg-ſhaped. *Lid* with a long beak. *Veil* long. WEIS.—From 2 to 12 inches long, crowded and lying one upon another, branches compreſſed, blunt, undivided, alternate or in pairs. *Leaves* criſp, tranſ-

transverſely waved. The whole plant is pale green in winter, yellowiſh in ſummer. DILL.

On chalk hills near Graveſend, and on the banks of the Thames out of the tide's way, on St. Vincent's rocks, and on the Welſh mountains. [About Kirkby Lonſdale, Weſtmoreland. Dr. J. E. SMITH.] P. March, April.

rambling HYP'NUM *flagella're.* Shoots proſtrate, below lengthened out, very ſlender, naked, above curved, ſtar-like. Leaves bent back. Capſules fringed, ſomewhat cylindrical. DICKS. ii. 12.

Dill. 39. 42.

Leaves ſmall, ſmooth, not much pellucid, produces its capſules in September. DILL.

On ſtones near rivulets in the Highlands of Scotland.

floating HYP'NUM *flu'itans.* Leaves ſpear-ſhaped, alternate, remote. LINN. *ſuec. n.* 1034.

Dill. 38. 33.—*Vaill.* 33. 6.

Fruit-ſtalks very ſlender, rarely found in flower. NECK.—Fine, red, in ſome plants very long, in others ſcarcely an inch long. *Capſules* red, hooked, very ſhort, fringed at the mouth. LINN.—*Shoots* 10 to 16 inches long. RELH. *n.* 1019.—Much branched. Shoots ſlender, a foot long or more, either upright or floating. *Leaves* narrow, alternate, thoſe on the ſtem fewer and broader than thoſe on the branches, ſoft, pellucid, yellow green. *Capſules* not hitherto found. DILL.

Stagnant waters. Marſhy places in Ireland, in a ditch near the road from Oxford to Marſton, ditches near Hackney, and elſewhere about London, and in a ſmall pond in a paſture oppoſite Great Founders Cloſe, Cambridge.

interwoven HYP'NUM *intrica'tum.* SCREB. *lipſ.* 99.—Shoots creeping, branched. Leaves ſpear-ſhaped, taper-pointed, open. Capſules pitcher-ſhaped, on crooked fruit-ſtalks. DICKS. ii. 10.

Vaill. 28. 2.

[Woods near Matlock. Dr. J. E. SMITH.]

ſhining HYP'NUM *lu'cens.* Branched. Branches ſomewhat winged. Leafits dotted.—

Dill. 34. 10.—*Hedw. hiſt.* i. 1. 4, 5, 6.

Trailing. *Branches* brittle, blunt. *Leaves* egg-ſhaped, pointed, flat, ſhining as if wet with dew. *Fruit-ſtalks* 1½ inch long, lateral.

Capſules

Capſules nodding. SCOP.—*Shoots* tiled. *Leaves* egg-ſhaped, tranſparent, dotted. WEBER.—*Shoots* about 2 inches long, ſometimes branched. *Leaves* large, thin, ſoft, pellucid, pale green, placed alternately in 2 or 3 rows. *Fruit-ſtalks* reddiſh. *Capſules* ſmall for the ſize of the plant, egg-ſhaped, more or leſs nodding, dark brown. *Lid* ſpit-pointed. *Veil* ſtraight, ſharp, whitiſh. DILL.

Woods, wet ditches, wet ſhady marſhy places. P. April—June.

HYP'NUM *luteſ'cens*. Shoots ſtraggling, trailing. Leaves awl-ſhaped. Capſules oblique. HUDS. ed. I. 421. RELH. *n.* 1020. *yellow*

Dill. 42. 60.

Leaves ending in a long hair. WEBER.—Differs from *H. ſericeum* in the ſhoots being longer, more ſlender and limber; the branches more diſtant and leſs crooked, the fruit-ſtalks longer, the leaves and the empal. longer; the capſules rather ſhorter, and bent; the lid alſo bending. *Fruit-ſtalks* from the ſhoot as well as from the branches. DILL.

γ *H. ſericeum*. Hudſ. ed. II. 506.

Chalk Hills between Northfleet and Graveſend, and on trunks of trees near Woding and Beddington, Surry. HUDS.—Gogmagog Hills. RELH. P. Jan.—April.

HYP'NUM *me'dium*. Shoots creeping, branched. Leaves broad, ſpear-ſhaped, pointed, tiled but open. Capſules upright, cylindrical, fringed. DICKS. ii. 12. *middle*

Dill. 42. 65.

Crowded together. *Leaves* preſſed to when dry. *Fruit-ſtalks* leſs than ½ an inch in length. DILL.

The foot of trees in woods in Scotland.

HYP'NUM *prolix'um*. Shoots branched, lengthened out, rather bare below. Capſules egg-ſhaped, fringed. Fruit-ſtalks aſcending, ſhort. DICKS. ii. 13. *long*

Dill. 38. 32; *and* 85. 20.

Shoots 12 inches or more in length, upright in ſtagnant, floating in running water, cloſely crowded, ſending out a few ſhort branches towards the ends. *Leaves* numerous, ſmall, tiled, under ones the largeſt. *Empal.* a ſmall bulb, compoſed of a few ſhort ſcales. *Fruit-ſtalks* ſhort. *Capſules* ſmall. DILL.

Alpine rivulets in Scotland. On Ben Glow.

round leaved HYP'NUM *rotundifo'lium.* Scop. *n.* 1333.—Shoots creeping, branched. Leaves oval, expanding, in 2 rows. Capſules egg-ſhaped, toothed and fringed, on crooked fruit-ſtalks. Dicks. ii. 10.

Scop. 62. 1333, *at* ii. *p.* 321.

Shoots ſlender, hardly 1 inch long, not numerous, *Leaves* thinly ſet. *Capſules* reddiſh; mouth with 2 rows of fringe. *Lid* with a ſlender beak. *Veil* white, chaffy. Scop.

Woods at the roots of trees, Scotland, [and on walls. Scop.]

wrinkled HYP'NUM *rugo'ſum.* Shoots ſcattered, rather upright. Leaves pointing one way, bowed back, wrinkled at the baſe.—

Dill. 37. 24.

Shoots rigid, brittle, dry; branches irregular, or winged, moſtly bent at the ends. *Leaves* ſpear-ſhaped, narrow, ſharply pointed, cloſely tiled. Pollich.—Shoots ſeldom more than 3 inches long, thick, lying on the ground, crowded together, irregularly branched. *Leaves* exceedingly crowded, dry, criſp, their points in one direction, yellow green, when old or dry quite yellow. The fruit-bearing plants grow a little diſtant from the others, and have a different appearance. They are thinner, more pointed; the leaves more uniform, and leſs yellow. *Empal.* open, ſcaly at the origin of the branches. *Fruit-ſtalks* ½ of an inch high. *Capſules* cylindrical, ſtraight, ſlender, red when ripe. Dill.

In bogs in Scotland. Near Loch Rannoch. Dicks.

toothed HYP'NUM *rutab'ulum.* Branches ſtraggling; partly creeping. Leaves egg-ſhaped; ſharp-pointed; tiled.—

Buxb. iv. 62. 2.—*Fl. dan.* 824. 2.—*H. ox.* xv. 6. *row* 5. 18. —*Vaill.* 27. 8.—*Dill.* 38. 29, *capſules the beſt, but the ſhoots, as Haller remarks, are too round.*—*H. ox.* xv. 6. 35.

Leaves pellucid. *Capſule,* mouth fringed. Neck.—Reſembling the *H. triquetrum,* but much ſhorter, not reddiſh, but yellowiſh; branches more upright and cylindrical. *Fruit-ſtalks* ſhorter, more numerous. *Capſules* nodding. *Mouth* fringed. Weis.—*Leaves* triangular, green, ſhining when dry, not keeled. *Capſules* dark brown, ſhining. Dill.

Woods and hedges, on the roots and trunks of trees, and ſhrubs: on the ground in barren places. P. Sept.—Jan.

β Huds.—Upright, ſhort. Leaves ſlender.

Marſhy places. *Dill. in R. ſyn. p.* 83. *n.* 18.

γ Huds.—Branches crooked; leaves expanding. *Lids* ſpit-pointed. *Dill.*

Dill. 38. 30, *not quite characteriſtic.*—*Vaill.* 27. 1.—*Hedw. hiſt.* ii. 1. 1, *a tranſverſe ſection of the bulb of the fruit-ſtalk.*—*H. ox.* xv. 5. *row* 3. 8. *p.* 625.

Slender, creeping, matted together, irregularly branched. *Leaves* ſmall, triangular, pale green. *Fruit-ſtalks* ½ to ¾ of an inch in length. *Capſules* ſwollen, ſhort, nodding. *Empal.* ſlender, ſcales narrow, ending in hairs. DILL.

Woods and buſhes, on the roots and trunks of trees. DILL.

P. Jan.

♪ HUDS.—Shoot creeping. Leaves keeled.

Dill. 38. 31.

Adhering to ſtones under water, in broad patches, 1 or 2 inches or more in length, according to the rapidity of the ſtream. *Branches* upright, cylindrical below, flat above. *Leaves* egg-ſpear-ſhaped, cloſely tiled, 2-rowed, and leſs compacted upwards. *Fruit-ſtalks* on the ſtem between the ſhoots, and from the boſom of the leaves. *Capſules* ſhort, thick, nodding. *Lid* beaked. *Mouth*, fringe long. WEIS.—*Leaves* deep dull green. *Fruit-ſtalks* ½ an inch high. DILL.

In rivulets and waters in Yorkſhire. DILL.

The ſhoots are often incruſted with calcareous earth, which in time it accumulates ſo as to form ſtones of 20 or 30 pounds weight. WEIS.

HYP'NUM *ſtella'tum.* Shoots upright. Leaves egg-ſhaped, ending in long points, upright-open, coloured. SCHREB. *ſpic.* 92. *n.* 1061. *ſtarry*

Dickſ. 1. 7.—*Dill.* 39. 35.—*Vaill.* 28. 10.

Shoots ſomewhat branched, ſomewhat tawney at the baſe, yellowiſh at the end. *Leaves* ſpear-awl-ſhaped, the ends ſtanding out. *Fruit-ſtalks* few, lateral, nearly an inch long, almoſt upright, red. *Capſules* egg-ſhaped, hunched, rather bowed in. *Lid* ſhort, pointed, diſtinguiſhable at firſt ſight from *H. cuſpidatum*, by the leaves at the ends of the ſtems not being rolled in, but expanding. DICKS.

Turfy bogs. RELH. *n.* 1018. — [Low wet meadows in Earſham, near Bungay, Suffolk. Mr. STONE.]

HYP'NUM *tri'quetrum.* Branches ſtraggling, bowed back. Leaves egg-ſhaped, bowed back, open.— *triangular*

Dill. 38. 28.—*Hedw. hiſt.* i. 7.—*Vaill.* 28. 9.—*Buxb.* iv. 63. 1.

Branches unequal. *Leaves* triangular, pointed. LINN.—Spreading to a foot in length, reddiſh, elaſtic, riſing upwards. *Leaflets* ending in a ſharp point. *Fruit-ſtalks* 1 or 2 inches high, riſing out of a ſcaly fence in the angles of the branches; upright. *Capſules* leaning.

Mouth with a ring; fringed. *Veil* bent. Weis.—Often grows upright. *Branches* frequently bent to the ground, their extremities taking root. *Leaves* broad, triangular, not keeled, tender, pellucid, pale green, pointed. *Empal.* rigid, oblong, compoſed of reflected ſcales, ſometimes 2 or 3 together. *Fruit-ſtalks* ſeldom more than an inch high. *Capſules* upright, thin; when ripe thicker, leaning, crooked. Dill.

Woods about the roots of trees, and in dry barren paſtures.

P. Sept.—Jan.

Uſed to pack glaſs and earthen ware. Weis.

waved HYP'NUM *undula'tum.* Shoots branched; branches ſomewhat winged. Leafits waved and folded.—

Dill. 36. 11.—*H. ox.* xv. 6. 33.

Fruit-ſtalks from the baſe and the middle. *Leafits* 2 rowed. Neck.—A ſpan long, lying flat. *Leafits* cloſely tiled, in a double or triple ſeries; when dry pale green and ſilky. Weis.—*Fruit-ſtalks* long, ſlender, reddiſh. *Veil* ſtraw-coloured, with a brown ſpot at the end. *Capſules* oblong. *Lid* ſpit-pointed. *Mouth* fringed. *Fence*, leaves narrow, ſhort, bent back. Dill.—*Capſules* very crooked when ripe. Weber.—*Shoot* not always branched; its rib yelloviſh. *Leaves* tender, pellucid, ſmooth, ſhining, pale green, not changing colour when dry. *Empal.* lateral, and in the angles of the branches, compoſed of ſhort, narrow reflected ſcales. *Fruit-ſtalks* 1½ to 2 inches long. *Capſules* ruſt-coloured, crooked when ripe. *Lid* pointed. Dill.

Woods, ſhady places, and moiſt rocks. On the top of Snowdon. [Rivelſton Wood, near Edinburgh. Dr. J. E. Smith.]

P. March—April.

*** *Shoots winged.*

fir HYP'NUM *abie'tinum.* Shoots winged; ſomewhat cylindrical, diſtant, unequal.—

Dill. 35. 17.—*Vaill.* 29. 12.—*H. ox.* xv. *row* 4. 22. *p.* 626. *No parts of fructification in any of them.*

Fruit-ſtalks from the middle of the rib of the ſhoot, ſingle, purple, ſtraight, as long as the ſhoot. *Veil* upright; awl-ſhaped; pale. *Capſule* yellowiſh red, more bowed back than in any of the reſt: edge of the mouth entire, with a ſhort open fringe within. Linn.—No ſpecimen found in fruit, in French Flanders. Neck.—*Shoots* 2 to 4 inches long, elaſtic when freſh, brittle when dry. *Wings* limber, alternate below, oppoſite and ſhorter above. *Leafits* egg-ſpear-ſhaped, ſcored, ending in hairs, cloſely tiled. Weis.—*Branches* ſtraight. *Leaves* ſtraight, which diſtinguiſhes it from the *H. filicinum.* Scop.—Grows matted together, half upright, ſometimes branched,

3 to

3 to 5 inches long. Side ſhoots awl-ſhaped, numerous, oppoſite, ſurrounded on every ſide by ſmall dull yellow green leaves. No fructification yet found. DILL.

Mountainous places. On hills near Hinkſey, Oxfordſhire. DILL. —In dry ſhady places, and on Chalk hills about Northfleet. P. March.

HYP'NUM *Criſta-caſtren'ſis.* Shoots winged. Little branches near together; bowed back at the ends.— *creſted*

Vaill. 27. 14.—*Dill.* 36. 20.—*H. ox.* xv. 5. 12, *if the plant, is a bad repreſentation of it.*

It very much reſembles an oſtrich feather from its ſhining parallel rays, by which, and by its ſilky hue, it is readily diſtinguiſhable. *Fructifications* ſeldom to be met with. LINN.—Shoots yellow green, or dirty white. *Fruit-ſtalks* ½ inch to inch long; from the baſe of the branches. NECK.—Grows in broad patches, reclining, flat, one plant over another. *Leafits* hooked, very ſharp. *Branches* triangular, the ends bent back. WEIS.—*Branches* crowded, ends reflected. *Leaves* numerous, bent back, yellowiſh green; downy, criſp. DILL.

Chalk hills, rocks, about the roots in dry woods and ſtony ſoils. [Bungay, Suffolk. Mr. STONE.] P. March, April.

HYP'NUM *filic'inum.* Shoots winged; little branches diſtant; Leafits tiled, bowed inwards; ſharp, pointing one way. *bog*

Vaill. 29. 9.—*Dill.* 36. 19.—*Vaill.* 23. 12, *is conſidered by Dill. as a variety of it, but it has rather the appearance of a different ſpecies.*

Fertile ſhoots trailing, the barren ones upright. *Fruit-ſtalks* 1 or 2 inches long; from the boſom of the branches; coloured. NECK. —*Shoots* from 3 to 6 inches, undivided, winged. *Wings* leafy. *Fruit-ſtalks* from the middle of the ſhoots, one or more in a place. *Fence* hairy. *Capſules* leaning. *Lid* conical, ſhort, blunt. WEIS.—Sometimes branched; always ſending out numerous lateral ſhoots, which are ſhorter as they grow nearer to the end of the ſtem. *Leaves* very numerous, pleaſant green, narrow, bent back. DILL.

Marſhy places, and near ſprings. [Bungay, Suffolk. Mr. STONE.] P. March. HUDS.—Summer. DILL.

β HUDS. 498. Smaller; yellow green,

Dill. 36. 21.

Leaves yellow green, ſmooth, narrow, ſpit-pointed, upper ones ſtraight, lower ones moſtly bent back. *Fruit-ſtalks* often twiſted and variouſly bent, reddiſh, 1½ inch long. *Empal.* pyramidal, ſcaly and hairy. DILL.

Wet heaths and other marſhy places. Early in the ſpring.

ſhining HYP'NUM *ni'tens*. Branches very ſhort. Leaves ſpear-awl-ſhaped, ſhining. LINN. *the Son.*

Dill. 39. 37.—*Vaill.* 27. 11, *is thought by Dillenius to be the plant.*

Shoots upright, 1 to 3 inches high. *Branches* lateral. *Leaves* cloſely ſet. *Fruit-ſtalks* terminating and alſo from the forks of the branches. *Capſules* egg-ſhaped, leaning when ripe. *Lid* ſhort, conical, pointed. *Mouth* entire. WEBER.—*Leaves* very narrow, almoſt hair-like. *Empal.* very long. DILL.

In turf bogs, Scotland. DICKS. ii. 12.

wall HYP'NUM *parieti'num*. Shoots nearly flat, and winged, lengthened out. Fruit-ſtalks ſeveral together.—*Vaill.* 29. 1.—*Dill.* 35. 13.—*Hedw. hiſt.* ii. 4. 13, *a perpendicular ſection of the lid.*—*Buxb.* ii. 1. 2, *and* ii. 2. 1.—*Happ.* 1. *Hypn.* 3.—*Vail.* 29. 1.—*Buxb.* iv. 65. 3, *is H. rutabulum.*—*Buxb. cent.* 4. *t.* 28. *f.* 1, *in Fl. ſuec. is an error for Vaill. t.* 28. *f.* 1; *and Buxb. cent.* ii. 2 *and* 4, *which is a Bryum in Sp. pl. ſyſt. veg. and pl. is a ſimilar error for Vaill. t.* 28. *f.* 1.—*H. ox.* xv. 5. 20, *is H. proliferum.*—*Vaill.* 23. 9, *is a different ſpecies.*—*Vaill.* 25. 1, *is H. proliferum.*

Fruit-ſtalks 4, 5, or more together, at the baſe of the branches; about 15 lines long.—*Shoot* bent at the places where the branches iſſue out, ſo as to be zigzag. Very like the *H. proliferum* in its mode of growth, and in the proliferous ſhoots ſending out other ſimilar ſhoots, but the leafits are more diſtinct, leſs compacted together, of a pale green with a ſilky gloſs. WEIS.—*Shoots* lying on the ground, from a ſpan to a foot long, conſiſting of 3 or 4 parts, ſhewing the annual increaſe, and as it grows in length at one end, the other end is converted into roots. *Branches* winged. The new ſhoot puts forth in the ſpring not from the end of the old one, but near to its end; is very denſely cloathed with leaves, and after a time ſends out branches. DILL.

Woods, heaths, and ſhady places. P. Feb. March.

It is uſed in Sweden to fill up the chinks in the walls of timber houſes.

winged HYP'NUM *penna'tum*. Plant winged, branched. Leafits tiled, pointed, in 2 rows, compreſſed, waved. Fence as long as the fruit-ſtalk. DICKS. 5.

Hedw. ſtirp. 3. 20.—*Dickſ.* 1. 8.

Differs from *H. complanatum* as follows. *Leaves* tranſverſely waved. *Fruit-ſtalk* not longer than the empal. Differs from *F. pennata* in the capſule

capſule being longer than the empal. DICKS.—*Branches* very ſhort, expanding. *Flowers* from the boſom of the leaves. HEDWIG.

[Trunks of trees in woods between Troutbeck and Amblefide, Weſtmoreland. Dr. J. E. SMITH.]

HYP'NUM *plumo'ſum*. Shoots winged; creeping. Branches crowded. Leafits tiled; awl-ſhaped. Capſules upright.— *plumed*

Dill. 35. 16.

Shoots a ſpan long. *Leafits* very minute, very cloſely tiled, ending in a very fine hair, whence its downy appearance. *Fruit-ſtalks* not ½ an inch long. *Capſule* egg-oblong. *Lid* ſmall, conical. *Mouth* fringed. WEIS.—*Shoots* about a ſpan long, browniſh, with dark ruſt-coloured wool underneath, by which it adheres cloſely. *Branches* from each ſide of the ſhoot, generally undivided, cloathed with very ſlender ſoft and ſhining leaves. *Empal.* hairy. DILL.

H. ſericeum β Hudſ. 506.

Trunks and roots of trees in Enfield Foreſt, and on brick walls about London. DILL. Jan. Feb.

HYP'NUM *prælon'gum*. Shoots ſomewhat winged; trailing; little branches remote. Leafits egg-ſhaped. Capſules on crooked fruit-ſtalks.— *trailing*

Dill. 35. 15.—*Vaill.* 23. 9.—*Buxb.* iv. 63. 3.

This ſpecies it is not ſo difficult to diſtinguiſh by the eye as by words. LINN.—*Leafits* ſerrated. *Fruit-ſtalks* 1 inch long, from the ſides of the ſhoots. Creeping along the ground for a foot or more. NECK.—At firſt ſight diſtinguiſhable from all the other Hypnums by its ſhoots being very long, very cloſely crowded together, covering the trunks of trees in broad patches and hanging down. *Shoots* trailing, very tender, brittle when dry, a ſpan long, or more, clinging to the trees by means of numerous brown woolly fibres. *Leafits* ſmall, triangular, ending in a hooked hair; alternate, in a double row. WEIS.—From a ſpan to a foot in length; doubly winged. *Leaves* very ſmall, triangular. *Fruit-ſtalks* an inch long, purple. *Capſules* dull green, brown when ripe; ſhort, leaning. *Veil* pale green, ſtraight. DILL.

Trunks of trees, rotten wood, and wet ground. [Bungay, Suffolk. Mr. STONE.] P. Oct.—Feb.

HYP'NUM *proliſ'erum*. Shoots proliferous; nearly flat and winged. Fruit-ſtalks ſeveral together.— *proliferous*

Curt. i. 2.—*Dill.* 35. 14.—*Vaill.* 25. 1.—*H. ox.* xv. 5, *row* 3. 20. —*Tourn.* 326. c.—*Ger.* 1372. 7, *cop. in Ger. em.* 1561. 7, *in Park.*

Park. 1310. 3, *and in J. B.* iii. 765. 1.—*(H. ox.* xv. 5. 21, *and Vaill.* 23. 9, *referred to by Haller, and in Mant. pl. is clearly a different ſpecies.)*

Its ſtructure is very ſingular; one large *compound ſhoot* proceeding from the middle or diſk of another, and this repeated ſeveral times in the ſame plant. LINN.—A ſpan long or more, doubly winged. *Leafits* very minute, very cloſely tiled. *Fruit-ſtalks* an inch long, (or more,) from the middle of the ſhoot, and from the rib of the branches 1 to 3 (4 or 5) in a place. *Fence* large, conical, hairy. *Lid* conical, pointed. *Veil* oblique. WEIS.—*Fruit-ſtalks* upright at the baſe, ſurrounded by a leafy empal. *Capſules* leaning, reddiſh, thick. *Mouth*, fringe in a double row.—*Leaves* ſo minute as hardly to be well diſtinguiſhed by the naked eye. *Capſules* reddiſh, at firſt ſtraight, then crooked. *Empal.* rough with hair. DILL.

Heaths and thick ſhady woods.

P. Dec.—Feb. CURT.—Autumn—April. DILL.

Covers the ſurface of the earth in the thickeſt woods through which the ſun never ſhines, and where no other plant can grow. LINN.

**** *Leaves bent back.*

hooked HYP'NUM *adun'cum.* Shoots nearly upright; ſomewhat branched. Leaves pointing one way; awl-ſhaped; bowed back. Branches bowed back.—

Dill. 37. 26.

Fruit-ſtalks 2 inches high, or more. *Branches* hooked at the ends. *Leafits* much bent back, diſtinguiſh it from the *H. filicinum.* NECK.—Reſembles the *H. cupreſſiforme*, but the ſhoots are more ſtraight, leſs branched; leaves longer, hooked, their ends pointing one way; fruit-ſtalks twice as long, riſing as well from the middle of the ſhoot as from the boſom of the branches. The ſhoots are remarkably rigid. *Fruit-ſtalks* 2 inches long, riſing out of a ſlender, ſhort, ſcaly empal. *Capſules* egg-ſhaped, diſtended, leaning. *Lid* conical, ſhort, blunt. WEIS.—Plant yellowiſh or tawney when growing out of water. RAY.—Empal. oblong, ſlender, ſcaly. *Veil* ſtraight. Lower leaves leſs hooked than the upper ones. DILL.

Marſhy and watery places, bogs, and wet paſtures. [Turf pits on Ellingham and Geldeſtone fens. Mr. STONE.] P. Apr.—Aug.

compreſſed HYP'NUM *compreſ'ſum.* Shoots winged; compreſſed. Leafits ſharp; bowed inwards. Capſules nearly upright, egg-ſhaped.—

Dill. 36. 22.

Reſembles the *H. filicinum* in the criſp appearance of its leaves, its winged ſhoots and greeniſh yellow colour, but it is much ſhorter, leſs

leſs branched, its branches more creeping and forming a more acute angle with the ſtem. *Leafits* hooked, ending in hairs. *Fruit-ſtalks* only an inch long. *Capſules* thick, egg-ſhaped. WEIS.—Two or three inches long, tender, compreſſed. *Leaves* narrow, in two rows, ſharp, points bent backwards, pale green, ſoft, ſhining. *Fruit-ſtalks* 1 inch long, reddiſh. *Capſules* oblong egg-ſhaped, green, upright, yellow red and inclining when ripe. DILL.

Woods on the trunks of trees and on young twigs. In a wood near Tottenham. DILL. March, April. In Summer. WEIS.

HYP'NUM *cupreſſifor'me*. Shoots ſomewhat winged. Leaves pointing one way; bowed back; awl-ſhaped at the end.— *cypreſs*

Fl. dan. 535.—*Dill.* 37. 23.—*Vaill.* 27. 13.—*Pluk.* 447. 6, *ill done.*—*H. ox.* xv. 5, *row* 2. 8.

Shoots irregular, yellow green; pellucid. *Fruit-ſtalks* from the baſe of the branches, and often twice their length. NECK.—*Stems* 2 to 4 inches long, creeping, irregular. *Branches* irregular, very leafy. *Leafits* very denſely tiled, hooked and hairy at the end. *Fruit-ſtalks* from the principal ſtem, an inch long. *Capſules* cylindrical, at firſt upright, leaning and bent when ripe. *Lid* ſhort, conical, pointed. *Veil*, whilſt young, ſtraight, oblong. WEIS.—*Stems* ſtratified, forming large and denſe patches; 2 or 3 inches long, irregularly branched. *Leaves* ſmall, crowded, ſoft, ending in hooked points, pleaſant green, ſmooth. Upper branches thick, bent at the ends; lower ones thinner and ſtraighter. The plant has the appearance of criſpneſs, but is not really ſo. DILL.

Woods at the roots of trees, and on thatch. *R. ſyn.* ST.

P. Feb.—March.

HYP'NUM *lo'reum*. Shoots creeping. Branches ſtraggling; upright. Leafits pointing one way. Capſules roundiſh.— *ſpreading*

Dill. 39. 40.—*Vaill.* 25. 2.—*H. ox.* xv. 5, *row the laſt*, 24, *p.* 626.—*Buxb.* iv. 64. 1.—*Ger.* 1370. 1.

Fruit-ſtalks from the baſe of the branches. NECK.—Nearly allied to the *H. ſquarroſum*. Ends of the branches thickeſt, bent back. WEIS.—*Fruit-ſtalks* more than an inch high, from the ſtem between the branches, upright. *Capſules* egg-ſhaped, leaning. *Shoots* near a foot long or more, the rib rigid, brittle, ſurrounded by pale green leaves, thoſe towards the end bent back. DILL.

On the mountains in Crevetenan Ballenahinch in the county of Down, Ireland; in hilly ſituations near Gloceſter. DILL.—In the mountainous

mountainous woods of Breadalbane. Mr. STUART *in ſt. ſcot.*—[Near Ambleſide, Weſtmoreland. Dr. J. E. SMITH.] P. April.

marſh HYP'NUM *paluſ'tre.* Shoots creeping. Branches crowded; upright. Leaves egg-ſhaped; pointing one way. Capſules nearly upright.—

Dill. 37. 27.

Branches nearly the length of the fruit-ſtalks. NECK.—*Branches* upright, compreſſed, from ½ to 1 inch high, numerous. *Leaves* in a double or triple ſeries, ſharp, hooked. WEBER.—*Shoots* ſlender, creeping, with few leaves, and thoſe ſhrivelled. *Branches* generally ſimple, ſhort. *Leaves* dull green, hooked at the end. *Fruit-ſtalks* from the baſe of the branches, red, longer than the branches. *Capſ.* oblong, a little inclining, brown when ripe. *Lid* larger in diameter than the capſule. *Veil* ſtraight, pale. DILL.

In wet places. On the banks of the Thames near Batterſea. DILL. —At the roots of trees and in wet ſtony places. HUDS.—[Water fall at Roſlin near Edinburgh. Dr. J. E. SMITH.] P. Jan.—April.

ſcorpion HYP'NUM *ſcorpioi'des.* Branches ſtraggling; trailing; bowed back. Leaves pointing one way, tapering to a point.—

Dill. 37. 25.

Branches brown, hooked, and yellow at the ends. LINN.—*Shoots* trailing, cylindrical, 1 to 3 inches long. *Branches* riſing upwards, thick, bent and thicker at the ends, about 1 inch long. *Leaves* ſpear-ſhaped, often ending in hairs, wrinkled at the baſe. *Fruit-ſtalks* ½ to 1 inch high. *Capſules* cylindrical, ſlender, leaning. *Lid* pointed. *Mouth* with a white fringe. WEBER.—The barren plants are longer and thicker than the fertile plants, colour dark red, the ends purple and green. The fertile plants are entirely green, except here and there a little purple. DILL.

Turfy bogs and marſhes. Near Biſhop's Caſtle, Shropſhire, and about Penter, near Bangor. Near Norwich, and in the North of England; and at Corriattachan in Strath Swandie in the Iſle of Sky. [Turf pits on Ellingham and Geldeſtone fens. Mr. STONE.] P. Nov.—April.

ſcurfy HYP'NUM *ſquarro'ſum.* Branches ſtraggling. Leaves egg-ſhaped, awl-ſhaped at the point, bent back in different directions. *Sp. pl.*—Leaves ſpear-ſhaped, between folded and keeled, bowed back in 5 directions. *Syſt. veg.*

Fl. dan. 535. 1.—*Dill.* 39. 38.—*H. ox.* xv. 5, *row* 2. 2.—*Fl. dan.* 648. 3, *ill done.*—(*Buxb.* iv. 65, *is Bryum ſquarroſum.*)

Branches

Branches ſcurfy on all ſides. LINN. *ſuec. n.* 1027.—Often 6 inches long, creeping, rib a beautiful purple, ſhining through the interſtices of the leaves. *Leaves* ending in a ſharp point, as fine as a hair. *Fruit-ſtalks* 1 inch to 1½ high, ſtraight, ſpringing from a cylindrical, ſcaly and hairy fence. *Capſules* egg-ſhaped, leaning. *Lid* blunt. *Mouth* wide open, fringe yellow. I have found capſules in July. WEIS. DILL.—*Capſules* rarely met with. RAY.

Moiſt meadows and paſtures. P. March—June.

β LINN.—Smaller. Leaves triangular, open, reflected. DILL. *Vaill.* 27. 5.—*Dill.* 39. 39.

Not much different from (α) except in the leaves being ſmaller, paler, cloſer ſet, and more bent back. WEIS.—The *Capſules* too are ſmaller, and the lid ſharper. DILL.

Wet places.

HYP'NUM *viticulo'ſum.* Shoots creeping. Branches ſtraggling; cylindrical. Leafits open, taper-pointed.— *twig*

Dill. 39. 43.— *H. ox.* xv. 5. *row* 1. 7.—*Vaill.* 23. 1, *leaves too pointed. Is is not H. ſtellare of Weber?—Pluk.* 47. 4.—*Hedw. hiſt.* i. 3. 11. *a. b.*

Shoots ſtraight, crowded; 2 or 3 inches long; ſtiff. *Fruit-ſtalks* 1 or 2 inches high, from the ſides of the branches. NECK.—Covering the trunks of trees in large patches. *Stems* fibrous, creeping, very long, branched. *Branches* upright, when dry cylindrical, and twiſted like a rope. *Leafits* nearly triangular, the upper ones largeſt. *Fruit-ſtalks* about an inch high, riſing from the boſom of the branches, out of ſmall hairy ſcaly fences. *Capſules* ſmall, ſhining. *Lid* very ſhort, conical, pointed. *Mouth* fringed when magnified, ſmooth to the naked eye. WEIS.—*Fruit-ſtalks* and *Capſules* upright. Appears criſp when dry. *Leaves* triangular, keeled, pointed but not hairy. DILL.

On trunks of trees, and ſometimes on the ground on the Chalk hills between Northfleet and Graveſend. DILL. 307.—[By the North Weſt corner of the bridge at Kirkby Lonſdale; and in Armingdale Wood, near Norwich. Dr. J. E. SMITH.—Earſham, Suffolk. Mr. STONE.] P. March, April.

***** *Shoots tree-like, the branches bundled.*

HYP'NUM *alopecu'rum.* Shoot upright. Branches in bundles; terminating; ſub-divided. Capſules rather nodding.— *fox-tail*

Dill. 41. 49.—*Vaill.* 23. 2, *is clearly this plant, though referred by Dill. to H. rutabulum.—Vaill.* 23. 5.—*H. ox.* xv. 5. *row the laſt,* 30.—*(H. ox.* xv. 5. *row* 4. 23, *is ſaid by Dill. to be a variety of this plant on the authority of Bobart's herbarium, but it ſeems to be H. rutabulum.)*

Leaves

Leaves of the ſtem open. LINN.—Grows like a little tree. NECK. —In its tree-like mode of growth it reſembles the *H. dendroides*, but the ſhoots are longer, the trunk is taller, the branches expand more, and are more frequently branched again; the extremities are not ſtraight, but hanging down, and the leaves expanding. When dry the leaves bend back at the points, but in the *H. dendroides* they lie cloſe preſſed to. WEIS.—*Fruit-ſtalks* an inch high. *Capſules* leaning. *Lid* with a long ſlender beak. HALLER.—*Stem* 4 or 5 inches high, covered with whitiſh pointed ſcales. *Leaves* ſerrated. *Fruit-ſtalks* ſhorter than the branches, bent. *Capſules* egg-ſhaped. *Lid*, beak bent. LEERS.—*Stems* light red, riſing from a trailing root. *Leaves* broad at the baſe, tapering to a point, alternate. *Empal.* ſcales ending in hairs, compact. DILL.

Moiſt and ſhady places at the roots of trees, and by the ſides of rivers. P. March, April.

tree HYP'NUM *dendroi'des*. Shoot upright. Branches in bundles, terminating; moſtly ſimple. Capſules upright.—

Dill. 40. 48.—*Fl. dan.* 823. 2.—*H. ox.* xv. 5. *row* 5. 31.—*Tourn.* 326, *no capſules.*—*Vaill.* 26. 6.—*Happ.* i. *Hypn.* 1.

Leaves of the ſtem lying cloſe. LINN.—Primary ſhoot trailing. NECK.—Readily diſtingniſhed by its ſtems cloſely compacted together, its ſhrub-like appearance, from 2 to 4 inches high, terminated by a buſh of branches. *Branches* upright, cylindrical, ſmooth, pointed at the end. *Leafits* egg-ſpear-ſhaped, pointed, flat, cloſely tiled. WEIS.—*Fruit-ſtalks* more than an inch long, from the baſe of the branches; upright. *Capſules* ſlender, upright. *Lid* conical, ſhort. *Veil* ſlender. DILL.—*Fruit-ſtalks* longer than the ſhoots. *Veil* covering the whole capſule. *Leaves* a little ſerrated. LEERS.

Moiſt woods and ſhady places about the roots of trees, and in moiſt paſtures. P. Feb. March.

fair HYP'NUM *pulchel'lum*. Shoots crowded, upright. Branches ſomewhat bundled, ſtrap-ſhaped. Fruit-ſtalks long. Capſules upright, ſomewhat oblique. DICKS. ii. 13. *Dickſ.* 5. 6.

Shoots ſhort, crowded into cloſe tufts. *Branches* nearly equal, expanding. *Leaves* near together, egg-ſpear-ſhaped, ſhining. *Empal.* ſhort. *Fruit-ſtalk* as long again as the ſhoot, riſing from its baſe, upright. *Capſules* inverſely egg-ſhaped. *Fringe* toothed. *Lid* pyramidal. *Veil* none on the ſpecimens. DICKS.

Shady woods, Scotland.

HYP'NUM

HYP'NUM *Smith'ii.* Shoots winged, branching on all ſides. Leaves nearly circular, ſomewhat concave. Capſules egg-cylindrical. Veil hairy upwards. DICKS. ii. 10. *hairy-veiled*

Dickſ. 5. 4.

Deep green. *Shoots* hard, woody, pointed: in the middle, or towards the end bowed in. *Branches* if preſſed down recovering their former direction, on the preſſure being removed. *Wings* ſtrap-ſhaped, bowed in and curled at the ends. *Leaves* tiled-open, preſſed to at the baſe. *Empal.* cylindrical, the leaves egg-ſpear-ſhaped ending in hairs. *Fruit-ſtalks* numerous, ſolitary, very ſhort. *Capſules* upright, egg-ſhaped, nearly cylindrical, reddiſh brown, ſhining. *Fringe* obſcurely toothed. *Lid* roundiſh, with a beak a little oblique. *Veil* ſlanting. DICKS.

Trunks of trees near Barham Downs, Kent. Dr. J. E. SMITH.

******* *Shoots nearly cylindrical.*

HYP'NUM *attenua'tum.* SCHREB. 100.—Shoots branched. Branches bowed in, ſometimes tapering, ſometimes thickening. Leaves egg-ſhaped, pointing one way. Capſules upright, tooth fringed. DICKS. ii. 13. *tapering*

Hedw. ſtirp. i. 12.—*Dill.* 42. 66, *the leaves bad.* HEDWIG.

Fruit-ſtalks upright, lateral. *Veil* ſlender, twiſting. *Capſules* cylindrical. *Lid,* beak blunt. *Fringe* double, outer row of teeth 16. HEDWIG.—Rather thick, much branched, yellow green, tawney when dry. DILL.—In large patches on the trunks of beeches, particularly on the Northern ſide. DILL.

Woods on trunks of trees, Scotland.

HYP'NUM *atro-vi'rens.* Shoots creeping, branched, thread-ſhaped. Leaves egg-ſpear-ſhaped, limber. Capſules inverſely egg-ſhaped, fringed, on crooked fruit-ſtalks. DICKS. ii. 10. *blackiſh green*

Dill. 43. 67.

Slender, irregularly branched. *Leaves* very ſmall, looſely diſpoſed, dull green and pellucid when wet, opake and blackiſh when dry. *Empal.* pale, ſlender, fixed near to the origin of the branches. *Fruit-ſtalks* blackiſh. *Capſules* ſmall, black. *Lids* deciduous. DILL.

Woods at the roots of trees, Scotland.

HYP'NUM *curtipen'dulum.* Shoots ſtraggling, cylindrical. Leaves egg-ſhaped, pointed, open. Capſules pendant.— *pendulous*

Dill. 43. 69.

Does

Does not flower when young. *Fruit-ſtalks* not more than ½ inch long; from the boſom of the branches. *Capſules* yelloviſh when ripe. NECK.—From 2 to 4 inches or more in length. Wide-ſpreading, much branched, rigid. *Leaves* ending in a ſharp hair-like point, cloſely tiled, broader and more denſe at the ends of the ſhoots, ſo as to give them a blunt club-like appearance. *Fruit-ſtalks* hardly ½ inch long, moſtly 2 together, upright. *Capſules* cylindrical at firſt, and upright; when ripe egg-ſhaped and pendant. *Lid* ſhort, beaked. *Fence* riſing nearly up a third of the fruit-ſtalk. WEIS.—Recumbent, matted together. *Shoots* thick, rigid, irregularly branched. *Leaves* green, numerous. *Empal.* long, pointed. *Capſules* yelloviſh. DILL.

On the trunks of beeches, in woods. On ſtumps in Enfield Foreſt, near Southgate, and in Yorkſhire. On large ſtones on the Marlborough Downs, Wiltſhire, and on the rocks of Snowdon. DILL.

P. Feb.—April.

pointed HYP'NUM *cuſpida'tum.* Shoots ſtraggling; pointed at the ends by the edges of the leaves rolled inwards.—

Dill. 39. 34.—*Buxb.* ii. 3. 1 *and* 2.—*(Vaill.* 28. 11, *cannot be the plant, the points of the leaves being bowed back, and ſeems more to reſemble H. nitens of Schreb. figured in Dill.* 39. 37.—*Buxb. ib.* 3, *more reſembles H. riparium; and* 4, *H. purum.—Happ.* ii. *Hypn.* 4, *is a different ſpecies.)*

Fruit-ſtalks in the boſom of the branches; very long. Stalks when old, reddiſh black, by which it is diſtinguiſhed from *H. compreſſum.* NECK.—The ſharp rigid points at the ends of the middle and terminating ſhoots, afford a ready mark of diſtinction. From 1 to 4 inches high. *Fruit-ſtalks* 2 or 3 inches long, upright, lateral. *Fence* ſcaly, long. *Capſules* egg-ſhaped, thick, a little bent; leaning. *Lid* blunt, ſhort, ſcarlet. *Mouth* fringed. WEIS.—Pale green, yelloviſh or reddiſh when in fruit. *Leaves* alternate, thin, pellucid, ſhining. DILL.

Bogs, marſhes, wet paſtures and moiſt woods. P. March—May.

cylindrical HYP'NUM *cylin'dricum.* Shoots creeping. Branches and capſules cylindrical. Leaves cloſely tiled, egg-ſhaped, pointed. DICKS. ii. 12.

Dill. 41. 57.

Shoots (on the ground) ſometimes branched, ſoft, ſhining, pale green or yelloviſh. *Leaves* narrow, not hairy, preſſed to. *Fruit-ſtalks* reddiſh, 1-3d of an inch long. *Capſules* upright, ſlender, cylindrical. *Lids* pointed. DILL.

Woods on the trunks of trees, Scotland.

HYP'NUM

HYP'NUM *filamento'ſum*. Shoots crowded, thread-ſhaped, branched. Capſules egg-ſhaped, fringed. Fence bulb-like. DICKS. ii. 11. *thready*

Dill. 36. 18.

Crowded, compreſſed, cloſely interwoven, ſo that it is hardly poſſible to extricate a ſingle plant. Shoots and branches cylindrical, not thicker than a ſtrong ſewing thread. *Fruit-ſtalks* purple, an inch long. *Capſules* ſlender, ſtraight, reddiſh and bent when ripe. *Empal.* oblong, large, compoſed of unequal ſcales. DILL.

Woods in Scotland.

HYP'NUM *filifor'me*. Shoots ſtraggling; very much branched. Branches thread-ſhaped, nearly cylindrical. Capſules oblique. HUDS. 497. *thread-like*

Dill. 42. 62.

Forming a compact interwoven tuft. Much branched; branches ſlender. *Leaves* very narrow, ſmooth, reſplendent green, when dry preſſed to, ſtanding out when freſh. *Fruit-ſtalks* ½ inch high, very ſlender, reddiſh. *Capſules* ſlender, at firſt upright, afterwards leaning a little, and again upright when ripe. *Empal.* ſlender, hairy. DILL.

H. filiciforme. Hudſ. ed. i. 421.—*H. filicifolium.* Linn. mant. 310. —*H. filifolium.* Linn. ſyſt. veg. ed. xiii. and xiv, all errors. ST.

Trunks of trees. P. Feb.

HYP'NUM *illec'ebrum*. Shoots and Branches ſtraggling; cylindrical; nearly upright; blunt.— *glaſswort*

Dill. 40. 46. *A. B. without capſules.—Vail.* 25. 7, *cop. in Dill.* 40. 46. c.—*Fl. dan.* 706. 1.

Leaves ending in a ſpit-point; very cloſely tiled. Pale, ſhining, tender, like the *H. purum*, but differs in its blunt branches, thick, ſhort, not winged. NECK.—*Empal.* leafits ending in hairs. *Fruit-ſtalks* ½ inch high. *Capſules* egg-ſhaped, upright, when old leaning a little. *Lid* pointed. *Mouth* fringed. WEBER.—*Leaves* roundiſh, entirely covering the ſtalks. *Capſules* ſmall, ſhort, upright. RAY. —*Branches* cylindrical. *Leaves* very pale green. DILL.

Heaths, ſhady places, and moiſtiſh paſtures. HUDS.

P. March, April—Oct.

HYP'NUM *mol'le*. Shoots pendant, thread-ſhaped, very much branched. Leaves tiled, egg-ſhaped, pointed. Capſules roundiſh, on crooked fruit-ſtalks. DICKS. ii. 11. *ſoft*

Dickſ. 5. 8.

Whole

Whole *plant* ſoft, flaccid, and flexile. *Shoots* bundled, floating, roundiſh, ſomewhat zigzag. *Branches* of very unequal lengths, the ends moſtly blunted. *Leaves* upright, concave at the baſe, open at the end, broad egg-ſhaped. *Scaly bulb*, leaves ſpear-ſhaped, taper-pointed. *Fruit-ſtalks* few, ſhort, bowed in. *Fringe* with a ring, with many teeth. *Lid* and *Veil* not found. DICKS.

Banks of rivulets in the Highlands of Scotland.

meadow HYP'NUM *pu'rum*. Shoots winged, but ſtraggling; awl-ſhaped. Leaves egg-ſhaped; blunt; approaching.—

Curt. iii. 34.—*Fl. dan.* 706. 2.—*Dill.* 40. 45.—*Vaill.* 28. 3.

Branches bowed. *Leaves* ending in a ſpit-point. *Fruit-ſtalks* 2 inches long. NECK.—Readily known by its peculiar ſleek habit, by its freedom from dirt, and its long, cylindrical winged ſcaly ſhoots. A ſpan long in wet, but ſhorter in dryer places. *Fruit-ſtalks* 1 to 2 inches high, from the mid-rib of the ſhoot and branches; upright, ſhining. *Fence* oblong, ſcaly. *Capſules* cylindrical, leaning. *Lid* beaked. *Mouth* fringed. WEIS.—*Stems* nearly cylindrical, upright or reclining; often branched. *Branches* winged. *Leaves* blunt, thin, ſoft, ſmooth, rather ſhining, when dry crumpled. DILL.

Paſtures, meadows, banks, and woods.

P. Nov. CURT.—Feb. HUDS.

Fiſhermen make uſe of it to ſcour their worms.

β HUDS. 504. LIGHTF. 760.—More ſlender. Ribs of the leaves red.

Dill. 40. 47.—*Vaill.* 29. 10.—*Neck. meth.* 1. 10.—*Buxb.* iv. 64. 1, *the right hand of the upper figures*; *and* 3.

Longer and more ſlender than the preceding, branches and leaves more pointed, more ſhining when dry, more thinly ſet, and expoſing more diſtinctly the red mid-rib. DILL.

water HYP'NUM *ripa'rium*. Shoots cylindrical, branched. Leaves pointed, open, diſtant.—

Dill. 40. 44.—*Fl. dan.* 649. 1.—*Buxb.* ii. 3. 3.

Shoots of nearly equal thickneſs, in ſome plants very long, in others not more than an inch, very ſlender, red. *Capſules* red, hooked, very ſhort, fringed at the mouth. LINN.—*Fruit-ſtalks* 1 inch long, from the baſe of the ſhoots. NECK.—*Stem* 4 to 6 inches long. *Shoots* few and irregular, cylindrical if above, winged if below the ſurface of the water. *Leaves* egg-ſhaped, cloſely tiled on the young cylindrical ſhoots, more diſtant and ſpear-ſhaped on the principal ſtem, and hairy at the end. *Fruit-ſtalks* an inch long, upright, lateral. *Capſules* egg-ſhaped. *Lid* conical, beak ſhort. *Mouth* fringed.

Veil

Veil upright, covering the young capſule. *Fence* very ſhort. Weis. —When growing out of the water, or where it is often expoſed to the air, the leaves are ſhorter and blunter, ſurrounding the ſtem, but when it is always immerſed in water they are longer, more pointed, and wing the ſtems. Dill.

On walls, and moiſt ſtony places on the banks of rivers, on planks and ſtones about water mills, and in rivers. [Bungay, Suffolk. Mr. Stone.] P. Sept.—April.

HYP'NUM *ſtramin'eum*. Shoots upright, thread-ſhaped, ſomewhat branched. Leaves egg-ſpear-ſhaped, without ribs, tiled. Dicks. 6. *ſtrawcolour'd*

Dickſ. 1: 9.

Shoots nearly upright, ſtrap-ſhaped, ſlender, when dry very brittle, 2 inches and more in length, ſtraw-coloured, ſometimes ſimple, or with 1 or 2 branches. *Leaves* convex and concave, glittering, preſſed to. *Fruit-ſtalks* lateral, upright, red, 1 and ſometimes 2 inches long, ſolitary or 2 together. *Capſules* egg-ſhaped, upright, hunched on one ſide. *Lid* ſhort, ſomewhat pointed. Dicks.

In a marſhy place on the Weſt ſide of Hampſtead Heath, near London.

******* *Shoots crowded.*

HYP'NUM *clavella'tum*. Creeping. Branches upright, greatly crowded. Capſules bowed. Lids bent inwards.— *club*

Dill. 85. 17.

Fruit-ſtalks twice as long as the branches. Neck.—*Shoots* 5 to 7 inches long, ſtiff, growing in denſe patches, tiled one upon another. *Branches* upright, or trailing, on oppoſite ſides of the ſhoot, ſhort, rigid, 2 or 3 lines long, and nearly 1 broad; thoſe in the middle the longeſt. *Leaves* hairleſs, very entire. *Fruit-ſtalks* lateral, 4 or 5 lines long, incloſed at the baſe by an empalement. *Capſ.* a line in length. *Lid* very ſharp. *Veil* ſmooth, a line long, reaching half way. Pollich.—Fixed by ſlender ruſt-coloured roots to the bark of trees. *Leaves* ſmall, crowded. *Capſules* roundiſh. *Lid*, beak crooked. *Veil* browniſh, broad at the baſe, ſuddenly tapering to a point. Dill.

On the dead branches and trunks of trees. P. Dec.—Feb.

HYP'NUM *gra'cile*. Shoots creeping. Branches in bundles; cylindrical; nearly upright. Capſules upright; egg-ſhaped.— *bird's foot*

Dill. 41. 55.—*Fl. dan.* 649. 2, *ill done, if the plant.*

Hangs ſuſpended from the bark of trees in numerous cylindrical pointed branches bending upwards, and ſomewhat reſembling the claw of a bird. *Fruit-ſtalks* from the baſe of the branches, ½ an inch high. *Capſules* upright, pointed, ochrey colour when ripe. DILL.

H. ornithopoides. HUDS.

Trunks of trees and rocks. On beech trees in Enfield Chace. On rocks on the Grey Weathers. P. Feb.—April.

mouſetail HYP'NUM *myoſuroi'des.* Shoots very much branched; branches awl-ſhaped; ſomewhat cylindrical, but tapering each way.—

Dill. 41. 51.—*H. ox.* XV. 6. *row* 3. 3.—*Vaill.* 27. 6.

Capſules leaning. NECK.—Pale green. Stem-leaves almoſt 3-cornered. DILL.

Woods at the roots of trees, and on ſtones and rocks. [Bungay, Suffolk. Mr. STONE.] P. Jan.—March.

β HUDS. 508.—Capſules upright.

Dill. 41. 50.—*H. ox.* XV. 5. 27.—*Vaill.* 28. 4, *but leaves too cloſely tiled, and too pointed. Capſules rather inclining than upright.*

Fruit-ſtalks from the ſhoots, and branches, 1 inch long. *Capſules,* mouth, fringe whitiſh. NECK.—*Stem* 2 to 4 inches long; branched towards the end. *Leaves* cloſely tiled, egg-ſpear-ſhaped, ending in hairs. *Fence* ſhort, ſlender, ſcaly. *Capſules* upright or leaning. WEIS.—Shoots thin, creeping, ſending out thready brown roots. *Branches* numerous, cylindrical, tapering at each end. *Leaves* crowded, egg-ſhaped, pointed, ſmooth, ſhining, preſſed to when dry, rather ſtanding out when freſh. *Empal.* ſlender; ſcales ſtraight, longer than the leaves. *Fruit-ſtalks* reddiſh, ½ or ¾ of an inch long. *Capſules* cylindrical, upright, tawney when ripe. DILL.

At the roots of trees, and on large ſtones in woods. Jan. — March.

γ HUDS.—Shoots and branches ſhort, nearly upright.

Dill. 41. 52.

Shoots about an inch long. *Branches* ſhort, upright. *Leaves* egg-ſhaped, dull dark green. DILL.

On the walls at Hampſtead. DILL. Autumn—Jan.

δ HUDS.—Leaves dark green, ſhining, ending in hairs.

Dill. 41. 53.

Leaves ſoft, dark green, ſhining, ending in hairs, which appear grey and reflected when the plant is dry. DILL.

On old walls, as of Weſtham Abbey, near Stratford, Eſſex; and on rocks on Emott paſtures, Yorkſhire. DILL.

HYP'NUM *ſciuroi'des.* Shoots upright; branched; bowed.— *ſquirrel-tail*

Hedw. hiſt. ii. 8. 45.—*Dill.* 41. 54.—*Vaill.* 27. 12.—*H. ox.* xv. 5, *row the laſt*, 27.

Fruit-ſtalks when ripe twiſted like a rope. *Barren flowers* on diſtinct ſhoots. *Shoots* 2 inches long, cylindrical. *Fence* riſing half way up the fruit-ſtalk. Primary ſhoots hairy. NECK.—*Stem* creeping, 3 or 4 inches long. *Shoots* from 1 to 1½ inch; ſeldom branched. *Leaves* cloſely tiled, egg-ſpear-ſhaped, pointed, ending in hairs. *Fruit-ſtalks* lateral, upright, ½ inch high. *Fence* ſlender, ſcaly. *Capſules* cylindrical-egg-ſhaped. *Lid* conical, pointed. *Fringe* white. *Veil* yellow at the end. WEIS.—Creeping, interwoven, fixed to the bark of trees. *Branches* numerous, upright, ſimple or divided, but generally bent like the tail of a ſquirrel. *Empal.* at the baſe of the branches, ſlender, ſcales narrow, ending in ſhort hairs. *Capſules* upright, dark brown when ripe. *Lid* very ſmall. *Fruit-ſtalks* twiſting when dry. DILL.

Trunks of old trees. [Bungay, Suffolk. Mr. STONE.]

P. Feb.—April.

HYP'NUM *ſeric'eum.* Shoot creeping. Branches crowded; upright. Leaves awl-ſhaped. Capſules upright.— *ſilky*

Dill. 42. 59.—*Curt.* ii. 21.—*H. ox.* xv. 5. *row* 4. 25.—*Vaill.* 27. 3. *a. b.*—*Garſ.* 639.—*Hill in Phil. Tr. abr.* x. 22. 129 *to* 133, *at p.* 762, *parts of fructification, who was right in his opinion that the heads of this tribe of plants were capſules containing ſeeds, though he was miſtaken in ſuppoſing the teeth of the periſtoma to be chives.* —*Lonic.* i. 55. 1, *cop. with the addition of capſules belonging to other ſpecies in Trag.* 946.—*Ger.* 1374. 12, *cop. in Ger. em.* 1563. 13, *and cop. again in Park.* 1313. 8.

Grows ſo firmly to the trunks of trees that it can ſcarcely be taken away entire. LINN.—*Branches* 3 or 4 lines long, cylindrical. *Fruit-ſtalks* from the boſom of the branches, pale red. NECK.—*Shoots* long, creeping, crowded, greatly branched. *Branches* ſhort, roundiſh. *Leaves* ſlender, very cloſely tiled, ending in long hairs. *Fruit-ſtalks* ½ to 1 inch high, lateral, crowded. *Fence* ſhort, thick, ſcaly. *Capſules* long, nearly cylindrical, but thickeſt at bottom, upright. *Mouth* narrow, *fringe* white. *Lid* beaked. *Veil* pale. WEIS.—Branches moſtly pointing one way. *Leaves* ſoft, ſhining. DILL.

On the ground on dry banks, trunks of trees, and walls.

P. Sept.—April.

creeping HYP'NUM *ſer'pens.* Shoots creeping. Branches thread-ſhaped. Leaves very minute.—

Dill. 42. 64.—*Vaill.* 28. 2, 6, 7, 8.—*H. ox.* xv. 5. *row the laſt*, 21, *p.* 625; *ib. row* 3. 14. *p.* 625; *ib.* 6. *row* 6. 16, *with capſules probably of Bryum cæſpiticium which ſometimes ſeems to grow from plants of H. ſerpens.*

Fruit-ſtalks from the baſe of the branches, ½ inch high. *Shoots* on the ground 6 inches, on trees 2 inches long. NECK.—*Shoots* abounding with thickſet ſlender fibres, forming broad patches, cloſely adhering to the earth. *Branches* very ſlender. *Fruit-ſtalks* numerous, upright. *Capſules* cylindrical, leaning. *Lid* pointed. *Mouth* fringed. WEIS.—*Branches* numerous, ſhort, generally ſimple. *Leaves* too ſmall to be diſtinctly ſeen by the naked eye, green, not ſhining. *Empal.* ſmall, hairy. *Fruit-ſtalks* an inch high, or more, fine purple. *Capſules* long, ſtraightiſh. *Veil* upright, broad at the baſe, ſilvery, ſhining. DILL.

On the ground under hedges, on the trunks of trees, eſpecially young ones, on wood, ſtones, and ſometimes on old bones. DILL. —On rotten wood, and in wells. LIGHTF. P. March, April.

velvet HYP'NUM *veluti'num.* Shoot creeping. Branches crowded; upright. Leaves awl-ſhaped. Capſules leaning.—

Dill. 42. 61.—*Happ.* iii. *Hypn.* 6.—*Fl. dan.* 475.—*Vaill.* 26. 9, *heads and the ſingle leaf good; leaves of the ſhoots too cloſe to the ſtem.—(Buxb.* iv. 62. 2, *is H. rutabulum.; ib.* 3, *is alſo referred to by Dill. and Linn. but the fruit-ſtalks proceed from near the ends of the branches.)*

Fruit-ſtalks twice the length of the branches. NECK.—*Leaves* hairy at the end. *Fruit-ſtalks* lateral, an inch long. *Fence* ſcaly, incloſing the thick baſe of the fruit-ſtalk. *Capſules* cylindrical, or egg-ſhaped. *Lid* conical, ſhort. WEIS.—*Shoots* crowded, interwoven, firmly adhering to the earth and the bottom of trees by ruſt-coloured woolly fibres. Stem-leaves broader than the branch-leaves. *Empal.* ſhort, hairy. *Lid* blunt. DILL.

At the roots of trees, in woods, and hedges, in ſhady places and barren paſtures. P.

Capſules appearing in autumn, and coming to perfection in Feb. and March.

β HUDS.—Smaller, ſhorter, of a paler green. R. *ſyn.*

Shoots ſeldom more than 3 or 4 lines long. *Leaves* egg-ſhaped. *Fruit-ſtalks* coloured. NECK.

1313. JUNGERMAN'NIA. Star-tip.

Ess. Char. *Fruit-ſtalk naked. Capſule with 4 valves. Fertile flower ſitting, with roundiſh ſeeds.*

Obs. Many of the ſpecies are beautiful microſcopic objects.—For a better account of the parts of fructification ſee page 24.

* *Shoots winged; pointing 1 way.*

JUNGERMAN'NIA *angulo'ſa.* Shoots ſimply winged, flowering from the middle. Leafits broadiſh, lopped, with 3 blunt teeth. Empalement bell-ſhaped. Dicks. 7. *angular*

Schmid. 22.—*Hedw. theor.* 18. 89 *to* 92.—*Mich.* 5. 10, *confeſſedly cop. in Dill.* 71. 22. *C, D, E.*

Shoots ſimple or branched. *Leaves* flat, green, pellucid, ending in 3 blunt teeth. Diſtinct from *J. trilobata*, the pinnules of which are eared and the leafits ſmaller. Dicks.

Moiſt ſhady places.—In Wales. Dill. Sept.

JUNGERMAN'NIA *aſplenioi'des.* Shoots ſimply winged. Leafits egg-ſhaped; ſomewhat fringed.— *ſpleenwort*

α *Hedw. theor.* 16. 17. 81. 82 *to* 88.—*Dill.* 69. 5.—*Mich.* 5. 3. *o o.*—*H. ox.* xv. 6. *row* 2. 42, *leafits ſo diſtant that I ſuſpect it to be a different plant.*—(*Scop.* 62. 1337, *inſtead of* 1338, *at* ii. *p.* 321, *is variety* β.)

Shoots 3 or 4 inches long; pale green. *Leaves*, upper edge fringed with little teeth, alternate. *Fruit-ſtalks* terminating, an inch long, riſing out of a ſheathing empalement. *Capſules* egg-ſhaped, purpliſh black, ſhining. Weis.—Trailing, ſometimes [illegible]ched. *Leaves* pellucid, pale green, without veins. I have never obſerved any roots. Dill.

Road ſides and on trees, in woods and wet ſhady places; alſo near ſprings and rivulets, when it is ſweet ſcented. [Earſham and Sexton Woods, near Bungay, Suffolk. Mr. Stone.]

P. Feb. — April.

β Leafits more crowded.

Dill. 69. 6.—*Mich.* 5. 1 *and* 2.—*Vaill.* 19. 7.—*H. ox.* xv. 6. *row* 2. 42.—(*Vaill. ib. a, b, is thought by Dill. to be J. viticuloſa.*)

Plant from 1 to 2 inches long. *Fruit-ſtalks* 12 lines long, terminating. Neck.—*Shoots* more branched than in (α) ſhorter. *Leafits* ſmaller and more crowded. Weis.

In the ſame ſituations with α.

forked JUNGERMAN'NIA *bicuſpida'ta.* Shoots ſimply winged; flowering in the middle. Leafits with 2 teeth.—*Dill.* 70. 13.—*Mich.* 6. 17.—*Schmid. Jung.*

Fruit-ſtalks 6 to 8 lines long. *Capſules* oblong, brown. NECK. DILL.—*Shoots* leſs branched than in the *J. bidentata,* and more limber, from ½ to 1 inch long. *Fruit-ſtalks* about ½ inch long. *Empal.* 2 lines long, at the origin of the branches. WEIS.—*Leafits* with 2 teeth at the and forming an acute angle. SCHOLL.

Shady places and moiſt woods. P. March, April.

cloven JUNGERMAN'NIA *bidenta'ta.* Shoots ſimply winged; flowering at the ends. Leafits with 2 teeth.—*Schmid. jung. f.* 14.—*Dill.* 70. 11.—*Fl. dan.* 888.—*Vaill.* 19. 8.—*H. ox.* xv. 6. *row* 2. 47.—*Mich.* 5. 12.—*Pet.* 13. 4.

Empal. terminating; obſcurely 3-cornered. *Fruit-ſtalk* whitiſh, tender, an inch long. NECK.—*Shoots* 1 to 3 inches long, generally winged. *Fruit-ſtalks* at the ends of the ſhoot or the branches. WEIS.—*Leafits* with 2 teeth at the end forming a half moon. SCHOLL.—*Leaves* pale-green, pellucid, alternate, fixed by a broad baſe to the rib, pointing upwards. *Fruit-ſtalks* leafy at the baſe. *Capſules* black brown. DILL.

Woods and moiſtiſh heaths, and ſhady banks. Oct.—Dec.

powdered JUNGERMAN'NIA *fiſſa.* SCOP. *n.* 1345.—Shoots ſimply winged. Leafits cloven. Stem with barren flowers at the end. LIGHTF. 770.

Dill. 31. 6.—*(Mich* 5. 14, *is alſo referred to by Dill. Linn. Scop. Hudſ. and, though not without a mark of doubt, by Lightf. Weber ſeems more than doubtful,* "*omnino dubius,*" *and obſerves that Micheli has repreſented the leaves as almoſt cloven. But any one who compares the figures of Dill. and Mich. will be aſtoniſhed that ſo accurate an obſerver as Dill. ſhould refer to the fig. and deſcription of Micheli, eſpecially when Micheli deſcribes the fiſſure as being ſcarcely perceptible. The leaves of Dill. fig. are irregularly ſquare, with open ſegments, thoſe of Micheli's egg-ſhaped, with ſegments cloſe together. Nor is it leſs ſingular that Dill. ſhould refer his plant to the genus Mnium, when in Micheli's fig. of what Dill. took for the ſame plant, there is a figure, as Scop. juſtly remarks, of a capſule ſimilar to thoſe of the genus Jungermannia. Nor is it much leſs ſingular that Linn. ſhould adopt, without examination, the deſignation and ſynonyms of Dill.)*

Small, whitiſh, creeping, leaves pointing 2 ways. Leafits notched at the end, and the ſegments ſharp pointed. SCOP.—*Roots* extremely ſlender and numerous from the mid-rib, and fixing the plant

plant firmly to the ground. *Fruit-ſtalks* ſhort, terminating and lateral. *Capſules* or powdery heads, pale green. *Leafits* tender, pellucid, cloven at the end, oppoſite. I have ſeen no other capſules than theſe powdery heads. DILL.

Mnium fiſſum. Linn.

In wet places about Highgate, and on Shooter's Hill near Eltham, and eſpecially in a rivulet running through Old-fall Wood, between Highgate and Muſcle Hill.

Feb.—April. DILL.—Scotland. LIGHTF.—P. March.—Oct. HUDS.

JUNGERMAN'NIA *infla'ta.* Shoots ſimply winged, flowering at the ends. Capſule oblong, inflated. Leafits cloven, the ends blunt. HUDS. 511. *inflated*

Dill. 70. 12, *(no fructification.)*—*Mich.* 5. 13.

In wettiſh ſhady places. DILL.—Moiſt heaths and woods.

Nov.—March.

JUNGERMAN'NIA *lanceola'ta.* Shoots ſimply winged; ſpear-ſhaped; flowering at the ends. Leafits very entire.— *ſpear-leaved*

Dill. 70. 10.—*Mich.* 5. 6 *and* 7.—*Happ.* i. *jung* 2.

Grows in large patches. *Shoots* hardly 1 inch long, ſimple, or divided into 2 or 3 branches. *Leafits* alternate, crowded at the ends of the branches. *Fruitſt.* near ½ inch long, from the ends of the branches, white. *Capſ.* greeniſh brown or blackiſh. WEIS.—*Shoots* ſometimes branched. *Empal.* ſlender, pallid, cloven into ſegments. DILL.

Moiſt ſhady banks. Feb. March.

JUNGERMAN'NIA *macrorhi'za.* Shoots upright, branched, flowering at the ends. Leafits alternate, blunted, open. DICKS. ii. 16. *long-rooted*

Dickſ. 5. 10.

Leaves, the uppermoſt purpliſh. *Root* large, branched. DICKS.

Higher mountains of Scotland.

JUNGERMAN'NIA *polyan'thos.* Shoots ſimply winged. Leafits very entire; tiled; convex.— *imbricated*

Dill. 70. 9.—*Mich.* 5. 5.

Flowers numerous, riſing from the middle of the branches, on their ſides.—*Shoots* about 1 inch long, winged. *Leafits* alternate, egg-ſhaped, with a blunt point. *Fruitſt.* ½ inch high, from the mid-rib and the origin of the branches. *Capſ.* brown red; egg-ſhaped.

WEIS.

Weis.—Short, branched, ſtiff. *Leafits* roundiſh, ſhort, thin, pellucid, tiled. *Empal.* white, ſhort, with 4 clefts. In the fig. of Micheli the leaves are ill done, and roots are erroneouſly added to the flower. Dill.

Woods, moiſt ſhady banks, amongſt moſs, and on the ſides of rivulets.—Lead hill, and between Darking and Cold Harbour, Surrey, in marſhy places. P. March, April.

red JUNGERMAN'NIA *purpu'rea.* Scop. *n.* 1343.—Wings with little ſcales underneath. Leafits roundiſh, convexo-concave, embracing the ſtem. Light. 778.

Dill. 69. 1.—*Mich.* 5. 16, *referred to by Lightfoot, has a general reſemblance to the plant, but the leafits are fringed.*

Leafits pointing from 2 oppoſite lines, nearly egg-ſhaped, tranſparent, ſmooth, embracing the ſtem, pointed, each furniſhed with a very ſmall ear-like leaf. I have never ſeen any other than fertile plants. Linn.—I have frequently found it with capſules. Huds. 473. Stems hollow, reddiſh. *Leaves* bending down, concave, roundiſh. Scop. —*Shoots* creeping, ſtrap-ſhaped, the ends riſing upwards. *Leafits* about a line in diameter, flat. Pollich.—Varies greatly in appearance. The young plants in wet places crowded, upright. *Leaves* very ſmall, roundiſh, nearly flat, pellucid, alternate, without appendages. When older, the leaves are larger, more cloſely ſet, convexo-concave, with ſcaly appendages at the baſe, reſembling the leaves in ſhape. In ſome plants when fully grown the leaves are roundiſh; in others ſpoon-ſhaped; and in another variety gathered on the banks of mountain lakes, I have found the leaves green, pellucid, not crowded, almoſt embracing the ſtem. *Shoots* ſometimes branched, from 1 inch to a foot long when growing in running water. Have not found it in flower. Dill.

Mnium Jungermannia. Linn. who obſerves that he placed it under that genus on the authority of Dill. See Fl. ſuec. n. 984.

Bogs, rivulets, and caſcades in mountainous ſituations, and in ditches and turfy heaths. On Cader Idris, Snowdon, and Glyder. Dill.—[In moiſt peat earth on a mountain called Cowſand, and on the ſides of hills in the Foreſt of Dartmoor, Devonſhire. Mr. Newberry.] P. March—Aug.

toothed JUNGERMAN'NIA *quinquedenta'ta.* Shoot winged; branched; flowering at the end. Leafits with 5 teeth.—

Dill. 71. 23.—*Mich.* 6. 2, *larger than natural.*

Leafits with 3, rarely with 4 teeth. *Empal.* with 5 teeth, a line or more in length. Neck.—*Shoot* ſometimes ſimple, taking root as it creeps along. *Capſ.* appear in autumn, it bloſſoms in the ſpring. *Leaves* 4-ſided, teeth or ſcollops from 1 to 6. *Shoots* crowded, 1 to 1½ inch

1½ inch long, in general branching into forks. WEBER.—Creeping, crowded, ſometimes branched. *Leaves* pellucid, numerous, broadeſt at the baſe, pleaſant green, lower ones ending in 3 ſharp teeth, upper ones in 4 or 5. *Fruitſt.* terminating. *Empal.* toothed, angular. *Capſ.* black. DILL.

Woods in wet ſhady places. About Tunbridge, and in the Weſt of Yorkſhire. P. April.

JUNGERMAN'NIA *ſphag'ni*. Shoots taking root, ſimply winged, flowering from the ſide. Leafits roundiſh, very entire, tiled, pointing one way. DICKS. 6. *Bogmoſs*

Dickſ. 1. 10.

Shoots an inch or more in length; ſometimes branched, ſometimes not, bending in various directions, and here and there putting forth fibrous roots. *Leaves* roundiſh, browniſh yellow, convexo-concave, all pointing one way, though placed in 2 rows, alternately lying on each other. *Capſ.* 1 or 2, iſſuing from the ſame ſide of the ſhoot near the top or the bottom. *Fruitſt.* pellucid, white, ¼ inch high. *Sheath* whitiſh, oblong, browniſh at the top. *Capſ.* ſmall, roundiſh, brown; but rarely ſeen. Differs from the *J. polyanthos*, Linn. in the leaves being of a browniſh yellow, pointing one way, and alſo in the fibrous roots. DICKS.

Marſhy places, frequently adhering to *Sphagnum paluſtre*, near Croydon, Surrey. May.

JUNGERMAN'NIA *ſpinulo'ſa*. Shoots upright, branched. Leaves inverſely egg-ſhaped, between toothed and thorny. DICKS. ii. 14. *triple ſnipt*

Dill. 70. 15.

Fructifications not hitherto diſcovered. DICKS.—*Shoots* upright or reclining, but not creeping; branches numerous. *Leaves* alternate, not cloſely ſet, dull green, pellucid, the upper ones ſmaller, with 2 or 3 teeth at the end; lower ones with more teeth. Have not found it in flower. DILL.

On Snowdon. DILL.—On the the mountains of Scotland. DICKS.

JUNGERMAN'NIA *tricho'manis*. SCOP. 1344. —Shoots ſimply winged. Leafits egg-ſhaped, flat, very entire. Stem with (barren) flowers at the end. LIGHTF. 769. *powder-headed*

Dill. 31. 5.—*Schmid. jung. f.* 17, *and* 18.

Shoots creeping and ſtriking root; terminating in powdery globular ſubſtances. SCOP.—Branched or unbranched, forming compact patches of a beautiful ſhining browniſh green, one ſhoot lying on another.

another. *Leaves* in 2 rows, minute, roundiſh, blunt, very entire, ¼ of a line in diameter. *Globules* terminating, ſitting. POLLICH. —Creeping on the ground, 1 or 1½ inch long. *Leaves* tender, pellucid, pale green, in pairs. Fruit-bearing branches ſhort, the leaves alternate. Capſules or globules ſmall, green, of ſhort duration. DILL.

J. trichomanes. Lightf.—*Mnium trichomanes.* Linn.

Woods, hedges, and wet ſhady heaths. P. April.—Oct.

ſwollen JUNGERMAN'NIA *ventrico'ſa.* Shoots ſimply winged, flowering from the middle. Sheath ſphæroidal. Leaves cloven. DICKS. ii. 14.

Mich. 5. 15, *confeſſedly cop. in Dill.* 70. 14.

Leaves more deeply cloven than repreſented by Micheli. DICKS.

Woods.

ſtraggling JUNGERMAN'NIA *viticulo'ſa.* Shoots ſimply winged. Leafits flat, naked, ſtrap-ſhaped.—

Dill. 69. 7.—*Vaill. a, b, between f.* 7 *and f.* 2.—*Mich.* 5. 4.

Shoots 3 inches long; branches 1 or 2 inches. *Leafits* egg-ſhaped, the edges fringed and bent back, ſo that they appear convex. *Fruitſt.* on the mid-rib, moſtly towards the lower part of the ſhoot, and at the origin of the branches, an inch long, or more. *Empal.* cut into ſegments. *Capſ.* roundiſh, black, ſhining. WEIS. DILL.

Shady ditch banks, and woods in wet places. About Slingford, Suſſex. DILL. P. March, April.

** *Shoots winged; appendages above the leafits.*

white JUNGERMAN'NIA *al'bicans.* Above doubly winged; flowering at the ends. Leafits ſtrap-ſhaped; bowed back.—

Dill. 71. 20.—*Vaill.* 19. 5.

Fruitſt. 2 to 3 lines long. *Leafits* with appendages on the upper ſide. NECK.—*Shoots* 1 to 2 inches long, not creeping, but reclining. *Fruitſt.* terminating. WEIS.—Forming denſe patches, one ſhoot lying on another. *Leaves* 2 rowed, ½ a line long, and ¼ broad, very entire; ending in a blunt point. Beſides theſe larger leaves, there is another ſet only half the ſize on the upper ſide of the mid-rib, 1 at the baſe of each larger leaf. *Empal.* cylindrical, white, terminating. Barren ſtems reddiſh at the ends and containing minute greeniſh globules filled with a powder. POLLICH.—Crowded together, ſimple or branched; whitiſh when dry. DILL.

Woods and wet ſhady places. P. March, April.

JUNGERMAN'NIA *cine'rea.* Shoots creeping, doubly winged above, flowering from the middle. Sheath cylindrical. Leaves tiled, rounded. DICKS. ii. 15. *ash-coloured*

Mich. 6. 18, *cop. in Dill.* 72. 28, *C, in flower.—Dill.* 72. 28. *A, B, not in flower.*

Grows creeping upon other moſſes. *Shoots* ſhort. *Leaves* round, grey, very ſmall, tiled. If immerſed in water and magnified, other ſecondary leafits may be found underneath theſe. DILL.

Woods. Bagley Wood, near Oxford. DILL.

JUNGERMAN'NIA *multiflo'ra.* Shoots creeping, branched. Leaves alternate, in pairs, briſtle-ſhaped, equal. LINN.—Leaf ſimply winged, flowering at the baſe. HUDS. 510. *many flower'd*

Dill. 69. 4.

Shoots thread-ſhaped, ½ to 1 inch long. *Leafits* ſhort. WEBER.—*Empal.* central, numerous, crowded, white, with 4 clefts. *Fruitſt.* ſlender, white, long. *Capſ.* large, reddiſh brown. DILL.

Shooter's Hill, near London. DILL. March. HUDS.

JUNGERMAN'NIA *nemoro'ſa.* Shoots above doubly winged; flowering at the ends. Leafits fringed.— *wood*

Hedw. theor. 15.—*Dill.* 71. 18.—*Mich.* 5. 8.

Leafits with appendages above the baſe. NECK.—Inverſely egg-ſhaped; ſomewhat tiled. *Leafits* broad at the baſe, and enveloping the mib-rib, ſo that there appears no interſtice between the leafits and the appendages or coloured ſcales placed above them. WEIS.—Plant moſtly about 1½ inch long, branched or unbranched. *Leafits* oblong, numerous, green, pellucid. *Empal.* terminating, broad, at firſt leaning. DILL.

Woods and moiſt ſhady places in Weſtmoreland.

P. March, April.

JUNGERMAN'NIA *rep'tans.* Shoots doubly winged underneath; taking root at the ends. Leafits with 4 teeth.— *creeping*

Dill. 71. 24.—*Schmid. jung. f.* 8. 13.

Fruitſt. from the baſe. *Capſ.* blackiſh, ſhining. DILL.—*Appendages* underneath the leafits. NECK.—Tender, creeping, irregularly branched, limber, about 1 inch long. *Leafits* very minute, ending in 3 or 4 little teeth. *Empal.* 3-ſided, whitiſh, toothed. *Fruitſt.* white, ſhining. *Capſ.* oblong egg-ſhaped. WEIS. DILL.

Moiſt ſhady places. P. Dec.—April.

JUNGER-

curled JUNGERMAN'NIA *reſupina'ta.* Shoot above doubly winged; flowering towards the baſe. Leafits finely ſcolloped; tiled; round.—

Dill. 71. 19.

Very rarely flowers. Underneath reſembling a ſtep-ladder. *Plant* 2 inches long. *Leafits* (if magnified) appear edged with a double fringe, with appendages on the upper ſide. NECK.—*Stem* forked, or imperfectly winged, lying one on another, rigid, brittle. *Leaves* in 2 rows; entire at the ſides, but with 3 or more minute teeth at the end. POLLICH. — Grows crowded together; reclining. Barren plants longer than the fertile ones. *Leaves* roundiſh, appendages ſtanding out, ſo that the plant has a criſped or curled appearance. *Empal.* moſtly at the baſe of the ſhorter ſhoots, diſtended, toothed. *Fruitſt.* near an inch high, white. DILL.

In clefts of rocks, and on turfy heaths. P. April.

downy JUNGERMAN'NIA *Tomentel'la.* Shoots creeping, downy above. Leaves entire, very downy. EHRHART. DICKS. ii. 14.

Dill. 73. 35.

Primary branches alternate, ſecondary ones alternate likewiſe, but ſo cloſely ſet as to appear nearly oppoſite; larger and more numerous in the barren than in the fertile plants. *Leaves* pale green, woolly, extremely crowded, and very minute. *Empal.* in the angles of the branches, long, woolly, ſtraw-coloured. *Fruitſt.* white, pellucid. *Capſ.* oblong, black. DILL.

Moiſt woods and heaths and wet moſſy places near rivulets in Yorkſhire, Cumberland, and Weſtmoreland; in a ſmall current of water which runs through Old-fall Wood between Highgate and Muzzle Hill, about Chicheſter, Suſſex, and Darking, Surry. *R. ſyn.* and DILL.—In the Highland mountains near Aberfeldy. DICKS.—[On a dry ſandy bank on Brome Heath near Bungay, Suffolk. Mr. STONE.] P. March, April.

trifid JUNGERMAN'NIA *triloba'ta.* Shoots doubly winged underneath. Leafits ſquariſh, ſlightly 3-lobed.—

Dill. 71. 22. *A. B.*—*(Mich.* 5. 10, *is J. anguloſa.*—*Dill.* 71. 23, *is J. quinquedentata.)*

Leafits with appendages on the under ſide. I have never ſeen it in fruit. NECK.—About 1 inch long, trailing, branches diſtant. *Leafits* with 3 to 5 ſhallow clefts at the end. *Empal.* about 2 lines long, terminating. *Fruitſt.* very ſhort. WEIS.—Sometimes branched, creeping. *Leaves* flat, green, pellucid, with three blunt teeth at the end. Not found it in flower. DILL.

Wales.

Wales. DILL.—On Crib y ddiſcil near Llanberris. HUDS.
P. March, April.

JUNGERMAN'NIA *undula'ta*. Shoots above doubly winged, flowering at the ends. Leafits roundiſh, very entire, waved.— *eared*

Vaill. 19. 6.—*Dill.* 71. 17.

My ſpecimen accords with Vaillant, but not entirely ſo with Dillenius's. *Leaves* pointing from oppoſite lines, expanding, near, not at all tiled, but diſpoſed in a double row in each ſide, alternate, diſtinct, equal, thoſe underneath not being ſmaller or united with thoſe above, all ſlightly waved. LINN.—*Leafits* with appendages on the upper ſide. NECK.—*Leafits* roundiſh, convex above, concave underneath, connected by a ſmall appendage near the rib, with the leafit above it. *Empal.* terminating, oblong, green. *Fruitſt.* white, 1 inch long. *Capſ.* roundiſh. WEIS. DILL.

Shady places. P. March, April.

*** *Shoots tiled.*

JUNGERMAN'NIA *cilia'ris*. Shoots creeping. Leafits doubly tiled; appendages underneath, fringed.— *fern*

Dill. 69. 3.

Branches alternate, convex above, tiled with a double row of ſcales, and tiled with appendages underneath. *Leafits* and *appendages* fringed, with the fringe bent back, whence its rough appearance; *upper leaves* often cloven. LINN.—*Shoots* the length of a finger, winged and branched, the branches alternate. *Leafits* very hairy. *Fruitſt.* from the forks of the branches, thick, white, pellucid, 1 to 2 inches long. *Empal.* hairy, long, ſtraw-coloured. *Capſ.* dark purple. WEIS. —*Leaves* ſometimes entire, ſometimes cloven at the end, alternate, elegantly fringed with hairs at the edges and at the ends, pellucid when plunged in water. It grows in tufts, upright; ſeldom found in flower. DILL.

J. pulcherrima. Linn. fil. Dickſ. i. 7, on the authority of Mr. D. in faſc. ii. p. 14.—(*J. ciliaris.* Hudſ. Lightf. is *J. Tomentella.*)

On heaths in England and Scotland. DICKS. P. March.

JUNGERMAN'NIA *complana'ta*. Shoots creeping. Leafits doubly tiled, with little ſcales underneath. Branches of an equal breadth throughout.— *flat*

Curt. iv. 45.—*Dill.* 72. 26.—*Mich.* 5. 21.

Leafits circular. *Fruit-ſtalks* terminating; very ſhort. NECK.— From 1 to 2 inches long, flat, irregularly branched, adhering cloſe to the bark of trees in broad patches; ſoft to the touch and flaccid when

when wet. *Fruitſt.* hardly a line long, riſing from the origin of the branches as well as from their extremities, out of a ſcaly empal. lopped at the end. *Capſ.* ſmall, black, of ſhort duration. WEIS. DILL.—Without viſible roots. Plant pale or yellowiſh green, tender, but hardly pellucid. *Fruitſt.* ſolitary or in pairs. DILL.

Trunks of trees, in hedges and thickets, flouriſhing moſt in a wet ſituation. P. Jan.—April.

ſcaly JUNGERMAN'NIA *dilata'ta.* Shoots creeping. Leafits doubly tiled, with little ſcales underneath. Branches broader towards the ends.—

Dill. 72. 27.—*Vaill.* 19. 10.—*Mich.* 6. 6.—*Neck. meth.* 1. 3, *at p.* 273.

Leafits circular, in a double row. NECK.—*Leafits* convex, ſmaller, and *ſhoots* narrower than in the *J. complanata.*—*Empal.* terminating the branches, 3-cornered. NECK.—Colour dark green, or reddiſh. *Fruit-ſt.* 1 line long. WEIS. DILL.—*Shoots* ſtrap-ſhaped, lying on one another, forming denſe roundiſh patches. *Branches* diſtant, winged. *Empal.* moſtly terminating, ½ a line long. *Fruitſt.* very ſhort. *Capſ.* minute, globular. POLLICH.

Trunks of trees, cloſely adhering to the bark. P. March, April.

wall JUNGERMAN'NIA *platyphyl'la.* Shoots trailing; tiled underneath. Leafits heart-ſhaped, pointed.—

Vaill. 19. 9.—*Dill.* 72. 32.—*Mich.* 6. 3 *and* 4.—*H. ox.* XV. 6. *row* 2. 44.—*Happ.* iii. *Jungermannia.*

Shoots very much branched. NECK.—Branches ſpreading. SCHOLL.—About a finger's length, growing in cloſe patches; doubly winged. *Leafits* egg-ſpear-ſhaped, tiled in a double row, with appendages underneath. WEIS.—*Fruitſt.* ſhort, lateral and terminating. WITH.—*Empal.* blunt, compreſſed, about 1 line in height. *Capſ.* minute, upright, ſmooth, ſhining, yellowiſh. POLLICH.—Grows in large tufts on walls and trunks of trees one layer upon another, fixed only by the ends, irregularly branched. *Leaves* crowded, tiled, pellucid, thin, dark green, the edges and the ends turned down. DILL.

Woods on trunks of trees, and on walls. [Old walls, Bungay, Suffolk. Mr. STONE.] P. March, April.

β Leaves ſhorter and rounder. HALL. *n.* 1872. LIGHTF. 785. *Dill.* 72. 33.—*Mich.* 6. 1.

Leaves heart-ſhaped, rounder than in the preceding. Mid-rib entirely covered underneath by ſcales. *Branches* at right angles to the ſhoot. Have not ſeen it in flower. DILL.

Trunks of trees. DILL.

JUNGER-

JUNGERMAN'NIA *pulcher'rima*. Shoots rather upright, crowded. Leaves egg-ſhaped, tiled, ſomewhat cloven, fringed. LINN. *fil. Meth. Muſc.* 35. DICKS. 7. *Dill.* 69. 3. *fringed*

I have not found the capſule in Engliſh ſpecimens. DICKS.—The moſt beautiful of its kind. *Leaves* concave, alternate, pointing one way, elegantly dotted, beſet at the edges with jointed hairs. Differs widely from the *J. ciliaris*, which has leaves doubly tiled, and furniſhed with ear-like appendages underneath. LINN. *fil.*—In broad patches on the trunks of trees. *Shoots* very much branched, crowded, intangled, ſtrap-ſhaped, compreſſed, broader and bent at the ends. *Sheaths* lateral and terminating, about 2 lines long. *Empal.* often ſplit. WEBER.—About 2 inches long, with a few branches, from which other ſhort alternate branches proceed. *Leaves* roundiſh, pointed, entire or cloven, elegantly fringed with ſoft hairs, alternate, without appendages, pellucid when wet. The whole plant grows crowded together, upright, the ends crooked, the colour ruſty brown. DILL.

On dry heaths. Trunks of trees. Oct.

JUGERMAN'NIA *tamariſ'ci*. Leafits tiled in a double row; the upper ones circular; convex; blunt; 4 times as large as the other.— *tamariſk*

Dill. 72. 31.—*Mich.* 6. 5.—*Vaill.* 23. 10.

Greatly reſembles *J. dilatata*. NECK.—But the ſhoots are much longer, crowded and lying one upon another, more ſlender, more branched, branches of a uniform breadth, blunt at the ends, not cloſely attached to the tree on which it grows, but rather hanging down. The mid-rib is more expoſed to view, and on the under ſide appears jointed, and covered with ſmall ſcales cloven at the end. *Fruitſt.* terminating, very ſhort. *Capſ.* brown yellow. WEIS. DILL.—*Leafits* very convex above. SCHOLL.—*Leaves* circular, very entire. *Capſ.* very minute. POLLICH.

Trunks of trees and rocks. P. Feb. March.

JUNGERMAN'NIA *va'ria*. Shoots nearly upright; tiled; pointing 2 ways. Leafits deeply divided.— *upright*

Dill. 73. 36.—*Mich.* 5. 9.

Shoots ſhort, ſtiff, brittle; frequently with green or yellowiſh globules at the end. *Fruitſt.* white, ſhining, 5 lines long, terminating. *Empal.* egg-ſhaped, with 4 teeth. *Capſ.* globular, black and ſhining. POLLICH.—At firſt creeping, undivided, winged with leaves; when

when older riſing up, ſomewhat branched, the leaves ſurrounding the branches. DILL.

Woods and heaths in moiſt ſhady places. P. March, April.

**** *Shoots tiled on every ſide. Leafits irregularly diſpoſed.*

mountain JUNGERMAN'NIA *alpi'na.* Shoots cylindrical. Leafits egg-ſhaped, expanding. Empalements tiled.—

Fl. dan. 1002. 1.—*Dill.* 73. 39.

Shoots ½ to 1 inch high, crowded together in tufts, branching into ſhort forks. *Empal.* terminating. *Fruitſt.* ſeldom found, very ſhort. WEBER.—One to 2 inches long; cylindrical, not brittle. *Empal.* ſcaly, light red, reſembling the bud of the beech tree. *Capſ.* dark red. DILL.

Wet rocks on Snowdon and Glyder, Caernarvonſhire, and bogs on Cader Idris. DILL.—And on the mountains of the North of England. HUDS.—And of the Highlands. LIGHTF.

P. April—Oct.

braided JUNGERMAN'NIA *concinna'ta.* Shoots cylindrical, ſomewhat compreſſed, cloſely tiled, compact. Leaves convex and concave, ſmooth. Flowers on fruit-ſtalks. LIGHTF. 786.

Dill. 73. 38, *J. julacea is ſpoken of by Lightf. as the beſt repreſentation of it.*

Grows matted in tufts, reddiſh brown above, pale green below. *Stalks* ¼ of an inch high, very ſlender, brittle when dry, cloſely tiled with leaves. *Leaves* undiſtinguiſhable by the naked eye, ſmooth, membranaceous at the edge, always preſſed to. *Fruitſt.* terminating, ſhort. *Capſ.* brown. LIGHTF.

Is it not a variety of *J. julacea?* HUDS. 651.

Rocks on the Highland mountains frequent. Sept.—Oct.

crooked-leaved JUNGERMAN'NIA *curviſo'lia.* Shoots creeping, branched, cylindrical. Leaves tiled, roundiſh, taper-pointed, cloven, the ends bowed in. DICKS. ii. 15.

Dickſ. 5. 7.

The points of the *leaves* next to the empalement upright. DICKS. Highlands of Scotland.

round JUNGERMAN'NIA *jula'cea.* Shoots cylindrical. Leafits tiled on every ſide; flowers on fruit-ſtalks.—

Fl. dan. 1002. 2.—*Dill.* 73. 38.

Brittle. *Fruit-ſt.* terminating. *Leafits* preſſed to. NECK.—*Shoots* ſlender, cylindrical, ſilky, from ½ to 1 inch high; ſometimes forked.

forked. *Leaves* ſo cloſely compreſſed as hardly to be obſervable, which diſtinguiſhes it from every other ſpecies. WEBER.—Grows in very denſe tufts; ſhoots and branches cylindrical, and ſilky when freſh. Dull greyiſh green, and brittle when dry. *Fructifications* rare. *Capſ.* ſmall, red brown. *Fruitſt.* ſhort, white, riſing out of a toothed empal. DILL.

Wet rocks and by the ſide of rivulets on Cader Idris, Glyder and Snowdon, and the Highland mountains. [On rocks on the ſides and tops of hills in Dartmoor, Devonſhire. Mr. NEWBERRY.]

P. Sept. Oct.

JUNGERMAN'NIA *minu'ta*. CRANTZ. *groenl.*— *minute*
Shoots upright, winged, branched. Leafits with appendages underneath. Leaves roundiſh. DICKS. ii. 13.

Dill. 69. 2.

Very ſlender, branched. *Leafits* not diſtinguiſhable by the naked eye, alternate, roundiſh, pellucid, in ſingle rows. *Roots* very fine woolly filaments fixed to the back of the mid-rib. DILL.

Amongſt moſs in the Highlands of Scotland.

JUNGERMAN'NIA *pauciflo'ra*. Shoots creeping, *fewflowered*
very much branched, thread-ſhaped, flowering in the middle. Leaves bowed in, deeply divided. Sheaths conical, remote. DICKS. ii. 15.

Dickſ. 5. 9.

Leaves alternate, remote, cloven down to the baſe; *ſegments* equal, ſtrap-awl-ſhaped, bluntiſh, concave, tranſparent, the interſtices opaque. *Fructifications* ſolitary, remote. *Sheaths* conical. *Fruitſt.* as long again as the empal. Nearly allied to the *J. multiflora*, and at firſt ſight greatly reſembling it, but differs from it in the number of its fruit-ſtalks, &c. DICKS.

Near Croydon, growing on *Sphagnum paluſtre*. DICKS.—Yorkſhire. Mr. TEESDALE.

JUNGERMAN'NIA *rupeſ'tris*. Shoots cylin- *rock*
drical. Leafits awl-ſhaped, pointing one way.—

Dill. 73. 40.

The whole *plant* very ſhort, being about one third of the length of a pin, blackiſh, upright, ſeldom branched. LINN.—*Shoots* branched, dark green. *Leafits* bent back. *Empal.* cylindrical, not tiled as in the *J. alpina*. WEBER.—Grows denſely crowded together, ſhort, naked below. *Leaves* very ſlender, reflected, dark green, blackiſh when dry, pointing one way. *Empal.* very minute, ter-

minating, reddiſh, not ſcaly. *Fruitſt.* very ſhort. *Capſ.* very ſmall. DILL.

On moiſt rocks on Snowdon and Glyder, Caernarvonſhire; the North of England, and the Highland mountains. [Plentifully upon rocks on the ſides and tops of hills in Dartmoor, Devonſhire. Mr. NEWBERRY.] P. March—Oct.

hairy JUNGERMAN'NIA *trichophyl'la.* Shoots cylindrical. Leafits hair-like, equal.—

Schmid. 42. 1 *to* 23.—*Dill.* 73. 37.

Shoots only a few lines in length, cloſely ſurrounded by very ſlender leafits, of a pale yellow green. *Fruitſt.* terminating. *Empal.* long, cylindrical, cloven. WEIS.—When magnified the leafits appear divided quite down to the baſe into 3 or 4 awl-ſhaped ſegments, compoſed of globular joints. *Fruitſt.* ½ inch long. *Capſ.* black. LEERS.—*Leaves* pale green, extremely ſlender. *Branches* numerous, irregular. DILL.

Turfy heaths near North Brierly, Yorkſhire. RICHARDSON *in Fl. Ang.* 516. P. April.

* * * * * *Stemleſs. Leaves ſimple.*

broad-leaved JUNGERMAN'NIA *epiphyl'la.* Stemleſs. A little leaf growing upon a large one.—

Hedw. theor. 21. 110. 111; 22. 23.—*Schmid. jung. f.* 1, *to* 6.—*Dill.* 74. 41.—*Fl. dan.* 359.—*Happ.* i. *jung.* 1. *The figure (a) at leaſt copied from Fl. dan.*—*Mich.* 4. *Marſilea* 1.—*Col. ecphr.* i. 331. 3, *cop. in Park.* 1314. 5.—*Mull. frid.* 2. 6 *and* 5.—

Leaf variouſly ſcolloped and curled at the edge, pale green, firmly fixed to the mud by fibres from its under ſide. WEIS.—*Fruit-ſtalks* hollow, 2 inches high. SCOP.—Bears its fruit in the ſpring, but flowers in autumn, the barren flowers appearing like dots on the older leaves, and the fertile ones in the cylindrical ſheaths. *Empal.* of 1 leaf, irregular, wrinkled. *Seed-bud* globular, ſmooth, on a very ſhort fruit-ſtalk, which is enſheathed. Lower part of the empal. fixed in a kind of groove. *Shaft* very ſhort. *Threads* on the ſeed-bud, of no determinate number. Mr. KNAPP.—*Leaf* ſhort, roundiſh, moderately broad; ſegments blunt, ſhallow, fine green, pellucid. In winter a dark green head appears upon the middle of the leaf. In ſpring this head breaks forth from a valve on the ſurface of the leaf, circular and open at the top, afterwards cut into 4 ſhallow ſegments. Out of this the fruitſt. riſes, growing rapidly to the height of 1½ or 2 inches, white, pellucid, ſupporting a dark green

green globe which opens into 4 browniſh and roundiſh ſegments, diſcharging a yellow brown powder mixed with fibres. This being done, the old leaf dies, and one or more young ones ſhoot out. DILL.

[Ellingham Fen, near Bungay, Suffolk, near the direction poſt. Mr. STONE.] P. March, April.

JUNGERMAN'NIA *furca'ta*. Stemleſs. Shoots ſtrap-ſhaped; branched; the ends forked and bluntiſh.— *ſtrap-ſhaped*

Hedw. theor. 19. 99, 100; 20. 101 *to* 109, *parts of fructification.* —*Dill.* 74. 45.—*Vaill.* 23. 11.—*Mich.* 4. 4.

Plant hardly 1 inch long. SCHOLL.—*Leaves* flat, greeniſh. *Fruitſt.* ſeldom more than 2 or 3 lines long. *Empal.* globular. *Capſ.* nearly globular, reddiſh brown. In a young ſtate it is often found amongſt Moſſes on trees of a pale yellow. It is then very brittle, and on handling falls into a yellow powder, greaſy to the touch. WEIS.— Fringed at the edge. Empal. and Capſ. hairy. Both on fruit-bearing and barren plants, on the mid-rib underneath the leaves, are found hemiſpherical or kidney-ſhaped bodies, a little hairy, becoming powdery. LEERS.—In ſtony ſhady places where it thrives well, it grows in tufts, and the plants ſupport one another nearly upright, but when ſcattered amongſt other Moſſes on trees or on the ground it creeps. *Leaves* flat, compreſſed, very thin, pale green, pellucid, with a diſtinct vein running through the middle, more or leſs lobed, trifid or bifid at the end; lobes blunt. DILL.

On the ground, on rocks, and in woods on the trunks of trees, DILL.—and wet ſhady places. HUDS. — [Bungay, Suffolk. Mr. STONE.] P. April.

JUNGERMAN'NIA *multiſ'ida*. Stemleſs. Shoots with doubly winged clefts.— *dwarf*

Dill. 74. 43.

Leaves pale green; clefts blunt. *Fence* at the baſe of the leaves, and at the edges of the ſegments, cylindrical. *Fruitſt.* about an inch long, from the baſe of the leaves. NECK.—*Leaves* flat, pellucid, ſucculent, greaſy to the touch, pale yellow green; thoſe without fruitſt. the moſt deeply divided. Seldom exceeding ½ an inch in length it would with difficulty be found, being moſtly covered by other Moſſes, did it not grow in quantities together. WEIS.— *Fruitſt.* white. *Capſ.* dark green, ſhining. DILL.

Woods and moiſt ſhady places. Cane Wood, near Highgate, and Charlton, Kent, DILL.—and about Hampſtead. HUDS.

P. April, May.

jagged JUNGERMAN'NIA *pin'guis.* Stemleſs. Leaf oblong, indented, greaſy.—

Schmid. 35.—*Dill.* 74. 42.—*Mich.* 4. *Marſilea* 2.—*Pluk.* 42. 2.—*Vaill.* 19. 4.

Fertile plant ſmaller and more jagged, the others growing cloſe together, and ſupporting each other become upright. DILL. *in R. ſyn.* 110.—*Fruitſt.* with a ſheathing empal. white, pellucid, from 1 to 3 inches high. *Capſ.* egg-ſhaped, black, ſhining, opening with 4 valves. Other leaves of a longer form not bearing capſ. are ſet with green warty ſubſtances about the middle. WEIS.—*Empal.* at firſt inconſpicuous, afterwards long, tubular, entire, pale green. *Fruitſt.* white, 1 to 2 inches long. DILL.—*Fruitſt.* from the hollow indentures of the leaf. *Empal.* long, cylindrical.

Marſhy places and Bogs. [Bungay, Suffolk. Mr. STONE.]

April.

ſhining JUNGERMAN'NIA *puſil'la.* Stemleſs. Shoot moſtly divided into winged clefts. Lobes tiled. Empal. plaited.—

Dill. 74. 46.—(*Schmid.* 22, *and Hedw. theor.* 18. 89 *to* 92, *are J. auguloſa.*)

Stemleſs. *Leaf* ſimple, very ſhort, ſlightly divided into winged clefts. *Lobes* tiled. *Empal.* bell-ſhaped, plaited on one ſide. *Head* before it expands black. LINN.—*Leaf* deeply divided into ſtrap-ſhaped lobes, which again are ſometimes forked. Lobes blunt, thick, flat, aſcending. *Empal.* often in pairs. LEERS.—*Fruitſt.* about ½ an inch long. POLLICH.—*Capſ.* round, black, ſhining; valves roundiſh, finely toothed. DILL.

Shady lanes and banks, and wet places on heaths near Woolwich. DILL.—Wray Wood near Caſtle Howard, Yorkſhire. HUDS.

P. March to June—Oct.

germander-leaved JUNGERMAN'NIA *ſinua'ta.* Stemleſs. Shoot with doubly winged clefts, flat, indented, open, the ends with two unequal lobes. DICKS. ii. 16.

Dill. 74. 44. *B. not in flower.*—*Mich.* 4. 3, *cop. in Dill.* 74. 44. *A in flower, is thought by Dill. to be the ſame.*

Leaves permanent deep green, thin, pellucid, flat, cut into winged ſegments. DILL.—Seems to be proliferous. *Leaves* lying one upon another, in which way it appears to increaſe till it has covered a large patch of rock. When firſt taken from the water it has a ſtrong, and to *me* an agreeable ſcent. I have never found *fructifications*, though I have examined it at different times of the year. I ſuſpect they have never yet been found in England. Mr. WOOD.

At

At the head of Elm Cragg Well, under Bell Bank, near Bingley, Yorkſhire. DILL. [Mr. WOOD.—Pretty plentifully at the head of a ſpring in Middleton Wood, 2 miles from Leeds, on rocks and ſtones entirely under water. Mr. WOOD.]

1314. TARGIO'NIA.*

EMPAL. of 2 valves; nearly globular.
CHIVE ſitting, bell-ſhaped, at the bottom of the cup.
ESS. CHAR. *Empal. 2 valves, incloſing a globe.*
CUP *inflated, containing in its bottom a*
CAPSULE *globular, of many ſeeds.* DICKS.

TARGIO'NIA *hypophyl'la.* Fructifications ſolitary; *dotted* cups open. DICKS.

Mich. 3, *Targionia*; *part of the plate cop. in Dill.* 78. 9.—*Buxb.* 1. 61. 4.—*Col. ecphr.* 1. *p.* 331. *f.* 333.

Not larger than the little finger nail. Green, not pellucid; rough with white riſing dots. Leaf heart-ſpear-ſhaped, at firſt green, afterwards dark purple, blackiſh underneath. *Fructification* at the end, on the under ſide, the ſize of a vetch. *Cup* black; opening, containing the fruit covered with a yellowiſh ſkin, and filled with a yellowiſh pulp which rubs to powder between the fingers, and ſtains them. COLUMN. *ecphr.*

Heaths and ſides of ditches near Dawliſh, Devonſhire.

P. March—May.

TARGIO'NIA *ſphærocar'pus.* Fructifications *reticulated* crowded together. Cups perforated at the ends. DICKS. 8.

Mich. 3. *Sphærocarpus*; *cop. in Dill.* 78. 17.

Cup reticulated like the leaf of a Jungermannia. *Capſ.* ſitting; browniſh when ripe. DICKS. 8.—In great plenty in clover fields on a ſandy loam, the firſt year. The thick tops of this plant have much the appearance of ſome of the ſmaller Moſſes, and have doubtleſs on that account been overlooked, but they have a glaucous hue which inſtantly announces them to the eye accuſtomed to obſerve them. Mr. WOODWARD.

[Clover fields Heyden and Norwich. Mr. BRYANT.]

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* *The* Targionia *belongs either to the Genus* Jungermannia, *or* Marchantia. SCHREBER de Targion.—HEDWIG. Theoria. p. 107.

1315. MARCHAN'TIA. Livergreen.

Ess. Char. *Barren Flower. Empal. target-ſhaped, covered underneath. Bloſſ. of 1 petal. Tips with many clefts. Fertile Flower. Empal. ſitting, bell-ſhaped, with many ſeeds.*

Obs. In ſome ſpecies the barren and fertile flowers are upon diſtinct plants.—For a more ſatisfactory account of the parts of fructification ſee page 26.

ſtar-headed MARCHAN'TIA *polymor'pha.* Common empal. with 10 clefts.—

α Linn.

Schmid. 29. 1 *to* 30.—*Hedw. theor.* 24. 127 *to* 131, *parts of fructification.*—*Dill.* 76. 6. *E, F.*—*Mich.* 1. 1 *and* 3.—*Lon.* i. 219. 2.—*Fuchſ.* 473, *(miſprinted* 476*) cop. in Trag.* 523.—*Matth.* 1038, *imit. in Lob. obſ.* 646. 1, *which repr. in ic.* ii. 246. 1, *Dod.* 473. 2, *and Ger. em.* 1565. 3; *and again imit. in Ger.* 1376, *which repr. in Matth. a. C. B.* 732.—*Garſ.* 300.

A yellowiſh ſubſtance reſembling a lock of wool proceeds from the capſules, appearing to move within them whilſt the ſeed is falling out. Linn.—From 3 to 5 inches long, 1 broad, and irregularly lobed; dark green, ſhining. *Fruitſt.* in the angles of the lobes, 1 to 3 inches high. *Capſ.* greeniſh, dividing into 8 or 10 ſegments. On the upper ſurface we here and there obſerve certain glaſs-ſhaped conical cups, on ſhort pedicles, with a wide and ſcolloped margin, Weis.—which incloſe about 4 little bodies, very finely ſerrated at the edges. Pollich.—In figure ſomewhat reſembling an oak leaf; ſurface reticulated. Dill.

In wet places both ſhady and open. On wet ſhady walks, and on the ſides of wells and ſprings. P. June—Aug.

β Plant ſmaller; not ſhining.

Dill. 77. 7.—*Mich.* 1. 2.—*Lob. obſ. upper right hand fig. repr. in Lob. ic.* 246.—*J. B.* iii. 758. 2.

Leaves ſmaller and ſhorter than in α, fine green, not ſhining, not reticulated; denſely compacted one upon another. Dill.

On the north ſide of walls, and ſtones, and in ſhady areas behind houſes. Dill. July, Aug.

γ Stars with 8 clefts.

Mich. 1. 5.

MAR-

MARCHAN'TIA *crucia'ta*. Capſule with 4 diviſions; ſegments tubular.— *croſs-headed*

Dill. 75. 5.—*Mich.* 4, *Lunaria.*—*Buxb.* i. 62. 2.

Crowded in its growth, ſometimes branched, new leaves proceeding from the ends of the old ones, from ½ to 1 inch long, pleaſant green, not pellucid, not veined. *Empal.* with 4 and ſometimes 5 diviſions. DILL.

Shady courts and garden walks. P. June—Oct.

MARCHAN'TIA *he'miſphæ'rica*. Capſule with 5 clefts; hemiſpherical. Empal. none.— *marſh*

Schmid. 34.—*Dill.* 75. 2.—*Mich.* 2. 2.—*Fl. dan.* 762.—*Buxb.* ii. 5. 1.

Head hemiſpherical, with 5 globules underneath. *Globules* burſting, and pouring out duſt. LINN.—*Leaf* divided into unequal ſegments, lobes ſcolloped; upper ſurface greeniſh, with innumerable dots. NECK.—*Leaf* from ½ to 1½ inch long, concave, edge waved and ſcolloped; at firſt ſimple, cloven when older, and a young one iſſuing from the end. *Fruit-ſtalks* an inch high, brownish, naked. DILL.

Sides of rivers and wet ditches, and wet rocks. P. April, May.

MARCHAN'TIA *co'nica*. Capſule ſomewhat egg-ſhaped, with 5 cells.— *conic*

Schmid. 31.—*Hedw. theor.* 25. 134 *to* 136.—*Mich.* 2. 1.—*Dill.* 75. 1.—*Vaill.* 33. 8, *barren plant.*—*Fl. dan.* 274, *fertile plant.*—*Col. ecphr.* 331. 1, *cop. in Park.* 1314. 4.

Leaves pleaſant pale green, greaſy to the touch, creeping on the ground, dotted on the ſurface, producing new leaves from the ends of the old ones. DILL.—*Fertile Flowers* on the leaf, reſembling warts. LINN.—*Fruit-ſtalks* 3 or 4 inches high, tranſparent, very tender. *Common empal.*; 5 cells burſting at the baſe, often varying in number from ſome proving abortive. *Seeds* when ripe hanging out attached to threads, having the appearance of the woolly ſubſtance which contains the ſeeds of the Lycoperdons. Micheli has deſcribed the barren as fertile and the fertile as barren flowers in all theſe plants. Mr. WOODW.—*Leaves* in large cluſters, indented, blunt, green, with ſeveral white tubercles.

On the ground on the banks of brooks in ſhady places, and ſometimes on rocks. DILL.—[Very common, but I have only found it in fruit in one place on the ſhady banks of a ditch at Ditchingham, Norfolk, where I have obſerved it for ſome years.

Mr.

Mr. Woodw.—In a wet ditch near Belſey Bridge, Ditchingham. Mr. Stone.] P. March, April.

muſhroom-headed MARCHAN'TIA *androg'yna.* Common empal. entire, hemiſpherical.—

Dill. 75. 3. *A. C.*—*Mich.* 2. 3, *cop. in Dill.* 75. 3. *B.*

Shoots ſtrap-ſhaped, forked, dotted; often notched at the end; mid-rib blackiſh. Weber.—*Fruitſt.* terminating, ½ to 1 inch high. Plant green, ſtrap-ſhaped, ſmooth, flat, in forked diviſions. Dill. Under wet rocks on the mountains of Scotland. Dicks. ii. 17.

1316. BLA'SIA.

Ess. Char. *Barren Flower? Empal. cylindrical, full of grains.*

Fertile Flower? Empal. naked. Fruit roundiſh, ſunk in the leaves, with many ſeeds.

Obs. Ought not the Barren Flower to be regarded as the Fertile one, and vice verſa? Linn. *gen. pl.*—For a more ſatisfactory account of the parts of fructification ſee p. 28.

dwarf BLA'SIA *puſil'la.*—

Schmid. blaſ.—*Hedw. theor.* 27. 156 *to* 164, *plant and parts of fructification.*—*Dill.* 31. 7.—*Mich.* 7, *Blaſia.*—*Fl. dan.* 45.

Seeds when ripe flowing out of a cup-like cylindrical veſſel, ſo ſmall that their figure is not diſcernible to the naked eye. Linn. *ſuec. n.* 1053.—*Leaves* in a circle, from 1 to 2 inches in diameter, deep purple at the baſe, green at the edges, jagged. Grows in a circular form in ſhady places. *Leaves* thin, green, pellucid, with whitiſh veins towards the baſe, waved at the edge, cloven at the ends. *Fruitſt.* 1-8th of an inch high, ſeveral riſing in ſucceſſion from near the ends of the leaves. Dill.

On the ſides of ditches and rivers in a ſandy ſoil. Huds.—At the breaking of Medlock River Bank at Feaſington Wood between Garret and Knotmill, about a mile from Mancheſter. Harrison in *Dill.* 238.—Near Halifax. Bolton.—On Hounſlow Heath. Huds. P. Aug.—Nov.

1317. RIC'CIA.

EMPAL. none; except a hollow bladder within the ſubſtance of the leaf.
BLOSS. none.
CHIVE. *Tip* cylindrical; fitting on the ſeed-bud; opening at the end.
POINT. *Seed-bud* turban-ſhaped. *Shaft* thread-ſhaped; perforating the tip.
S. VESS. globular; with 1 cell; crowned with the ſhrivelled tip.
SEEDS many; hemiſpherical; on little foot-ſtalks. *From the obſervations of Schreber.* LINN.
Ess. CHAR. [a repetition of the generic character.]—
For a more ſatisfactory account of the parts of fructification ſee page 29.

RIC'CIA *min'ima.* Leaves ſmooth; deeply divided; *ſmall* pointed.—

Dill. 78. 11.—*Mich.* 57. 6, *much magnified.*—*(In Schmid.* 45. 3, *the ends of the ſegments are blunt.)*

Shoots hardly a line in breadth, generally forked, entire and pointed, or elſe notched at the end. In the ſubſtance, and towards the baſe of the leaf, in the month of October we may obſerve greeniſh globules, changing to brown and then to black. WEBER.

On Black Heath near Greenwich. DILL.—In places that have been overflowed. HUDS. A. Nov. Dec.

RIC'CIA *glau'ca.* Leaves ſmooth, channelled, with *marſh* 2 lobes, blunt.—

Schmid. 44. 1.—*Hedw. theor.* 29. 165 *to* 174.—*Vaill.* 19. 1.—*Fl. dan.* 898. 1.—*Mich.* 57. 4.—*Dill.* 78. 10.—*Buxb.* ii. 5. 5.

I have frequently obſerved black ſpots immerſed in the ſubſtance of the leaves, which are what Micheli has deſcribed as capſules full of ſeeds, and which has been ſince clearly aſcertained by Hedwig. Mr. WOODWARD.—*Leaves* ſmall, the under ſide firmly fixed to the ground, adhering at the baſe to each other, deeply divided, POLLICH. —whitiſh green, thick, greaſy, very ſmooth, broadiſh, furrowed on the upper ſide, frequently forked; ſegments blunt. WEBER.—Growing in a circular form. *Leaves* thick, iſſuing from a centre, often cloven. Roots fine black fibres from the under ſurface of the plant

plant which floats on the water. RAY. *hiſt.*—I have never ſeen it on the water, but in roads and wet corn-fields both in ſpring and autumn. DILL.

Sandy moiſt heaths. [In the ſame ſituations, and uſually growing with Targionia *Sphærocarpos*, and at the ſame time. Mr. WOODWARD.—In clover ſtubbles near Bungay, Suffolk, frequent. Mr. STONE.] A. Oct.—April.

floating RIC'CIA *flu'itans*. Leaves forked; ſtrap thread-ſhaped.—

Vaill. 19. 3.—*Dill.* 74. 47.—*Mich.* 4. 6.—*Pet muſ.* 2. 253.—*Fl. dan.* 275, *ill done. The magnified figure repreſented as fringed.*

Not having myſelf ſeen its fructifications, it is ſtill a doubt whether it really belong to this genus. LINN. *ſuec. n.* 1056. — Floating in ſtagnant water; brown green in ſpring, pure green in ſummer. DILL.

Ditches and ſides of pools. P. Jan.—Dec.

fringed RIC'CIA *na'tans*. Leaves inverſely heart-ſhaped; fringed.—

Dill. 78. 18.

The edges of the leaves are not really fringed, but aſſume that appearance in conſequence of their ſending out fibrous roots. WEBER.—About ½ inch long. *Fringe* ſometimes white. SCHOLL. —*Leaves* ſometimes only inverſely egg-ſhaped, and without any notch at the end; entire at the edge, bright green. WEBER.—Very nearly allied to Targionia *hypophylla*. HUDS.

Pools about Hadley, Suffolk. BUDDLE *in Dill.* 537. [Sawſton Moor, Cambridgeſhire. Mr. RELHAN.] A. Aug.—Oct.

ſhrub-like RIC'CIA *fruticulo'ſa*. Leaves upright, compreſſed, variouſly branched. MULL. *fl. dan.* XV. 6.—Branches upright, forked, awl-ſhaped. DICKS. 8.

Fl. dan. 898. 3.

Its habit that of Jungermannia *furcata*. Colour verdigris, or greeniſh blue. DICKS.

On the bottom of the trunks of trees among moſs.

1318. ANTHO'CEROS.

Ess. Char. *Barren Flower. Empal. ſitting, cylindrical, entire. Tip awl-ſhaped, very long, of 2 valves.*
Fertile Flower. Empal. with 6 diviſions. Seeds 3.

Obs. Diviſions of the empal. ſometimes only 4, and then there are but 2 ſeeds. Linn.—The reader is deſired to refer to page 28, for a better idea of the fructification.

ANTHO'CEROS *punctā'tus*. Leaves undivided, *dotted* indented, dotted.—

Dill. 68. 1.—*Mich.* 7. 2.—*Fl. dan.* 396.—[*Hedwig's figures of A. lævis* 27. 144 *to* 152; *and* 28. 153 *to* 155, *equally well repreſent the fructification of this.* Mr. Woodward.]

Capſ. and Fruitſt. from 1 to 3 inches long, ſpreading wide in ſhady places. *Leaves* ſhort, ſcolloped, jagged, thin, pellucid, deep green. *Fruitſt.* green, numerous, ſheathed at the baſe. The whole plant turns black when dried in paper. Dill.—*Leaves* deep green, criſp, reſembling *Jungermannia pinguis. Fruitſt.* ſimple, from a lopped ſheathing empal. *Capſ.* at the end of the fruit-ſtalk; valves 2, burſting. *Seeds* adhering to a columnar receptacle. Micheli has deſcribed the barren as fertile, and the fertile as barren flowers. Mr. Woodward.—Dots on the leaves black. Weber.

On heaths in moiſtiſh ſhady places. [Ellingham fen, Bungay, Suffolk, near the direction poſt. Mr. Stone.—Brome, Norfolk, on the borders between the high and boggy ground. Mr. Woodward.]

P. Auguſt—April.

1319. LI'CHEN.

1319. LI'CHEN.

Ess. Char. *Barren Flowers. Receptacle roundiſh, flattiſh, ſhining.*
Fertile Flowers. A meal ſprinkled on the leaves. — Obs.
For a better idea of the mode of fructification ſee page 29.

This Genus is ſub-divided into the

A. Tubercled; or thoſe which conſiſt of a ground or thin cruſt ſtudded with convex receptacles, or tubercles.
B. Saucer-like; a cruſt ſtudded with concave receptacles reſembling little bowls or ſaucers.
C. Tiled; leaves ſpreading flat, and cloſely adhering to the ſubſtance on which they grow.
D. Leafy. Leaves looſe from the ſubſtance on which they grow.
E. Leather-like. Of a ſubſtance reſembling leather.
F. Sooty; adhering to the ſubſtance on which they grow, only in one point; and the ſurface as if ſprinkled with ſoot.
G. Glass-shaped. Receptacles expanding into the form of a drinking glaſs.
H. Shrubby. Shooting into branches reſembling a ſhrub.
I. Thread-like. Shooting into long thread-like branches. Linn.

A. Tubercled. *Cruſtaceous, ſtudded with convex Tubercles.*

black and white LI'CHEN *atro-al'bus.* Ground black, with black and white tubercles mixed together.—
Jacq. coll. ii. 14. 1.
It is difficult to ſay which colour forms the cruſt. Linn.—*Cruſt* wide ſpreading, thin, firmly adhering, mealy, rough, black, thickly ſet with very ſmall ſub-ſphæroidal Tubercles, of a grey white colour. Jacq. coll. ii. 185.
On rocks, and often on peat earth. P. Jan.—Dec.

greeniſh LI'CHEN *atro-vi'rens.* Ground green, with a black border, and black tubercles.—
Hoffm. lich. 17. 4.—*Jacq. coll.* ii. 14. 2.

Tubercles

Tubercles ſmall, of a yellow-greeniſh colour, crowded, ſo that the whole ſurface appears of a yellowiſh green, bordered by a black margin. LINN.—*Cruſt* hardly diſcernible on a ſlight inſpection, inſeparable, blackiſh, ſet with innumerable minute yellowiſh dots. When magnified a blackiſh wart is found attached to each of the yellow particles, and other warts ſcattered on the cruſt. The ſmallneſs of the granulations and the abſence of diſtinct lines diſtinguiſhes it from the *L. geographicus*. HOFFMAN.—*Cruſt* very thin, truly mealy, black. *Tubercles* ſitting, lentil-ſhaped, very ſmall, yellowiſh watery green, ſmooth, without any riſing or different coloured border. JACQ. coll. ii. 186.—I can ſee no reaſon for ſeparating it from *L. geographicus*. Mr. WOODWARD.

On rocks, Yorkſhire. P. Jan.—Dec.

LI'CHEN *betuli'nus*. Ground white, with a central tubercle of the ſame colour. HUDS. 525. *birch*

Cruſt nearly ½ inch diameter, circular, thin, fibrous. *Tubercle* ſolitary, hemiſpherical, nearly of the ſize of a hemp ſeed. HUDS.

On the trunk and branches of the Birch. A. Sept.—April.

LI'CHEN *byſſoi'des*. Cruſt mealy. Tubercles on fruit-ſtalks, ſomewhat globular. LINN.—Cruſt brown. Tubercles globular, brown. HUDS. 527. *brown*

Dill. 14. 4.

Cruſt wrinkled, very thin. *Tubercles* broad, depreſſed, wrinkled. DILL.

On rocks near Biſhop's Caſtle, Shropſhire. DILL.—On the bark of trees. HUDS. P. Jan.—Dec.

β HUDS.—*Dill.* 14. 5.—*R. ſyn.* 1. 3.—*Willd.* 7. 20.

Tubercles hard, uniform, livid reddiſh colour; on whitiſh pedicles. DILL.

On the bark of trees. HUDS.—[I have the true one growing on a horſe's hoof. Mr. RELHAN.]

LI'CHEN *cæruleo-ni'gricans*. Ground bluiſh. Tubercles blackiſh. LIGHTF. 805. HUDS. 652. *bluiſh*

(Dill. 82. 2, is cited by Lightf. but Mr. Dickſon aſſures us after an examination of the Dillenian ſpecimens that it is L. leucophæus.)

Tubercles nearly ſitting and greeniſh when young, on pedicles and bluiſh when more advanced in growth, and blackiſh when old. RELH.

A variety of *L. atro-albus*. BOLT 120. *(L. cæruleo-nigricans.* Relh. n. 847. is *Sphæria glauca.)* BOLT.

On

On the highland rocks, but not common. LIGHTF. 805. [Norfolk and Suffolk. Mr. WOODW.] P. Jan.—Dec.

dyers LI'CHEN *calca'reus*. Ground clear white, with black tubercles.—

Dill. 18. 8.—*Mich.* 54. *ord.* 37. 7.

Doubtful whether diſtinct from *L. ſanguinarius*. Mr. WOODW.—Hard, ſtony, firmly fixed to the rocks, gritty when chewed, rather rough, cracked, ſet with minute white eminencies, white within, thickneſs of half a ſtraw's breadth. *Tubercles* rarely found, ſcattered, black, not bordered. DILL.

On moſt of the rocks of Glyder mountain, Caernarvonſhire. DILL.—On limeſtone rocks in the North of England and Wales. HUDS.—On the Pentland Hills. LIGHTF.—And on old walls. RELH. Jan.—Dec.

This ſpecies is ſo peculiar to limeſtone rocks, that wherever that ſtone occurs among others, it may be diſtinguiſhed at the firſt view by this plant growing upon it.—When dried, powdered and ſteeped in urine it is uſed to dye ſcarlet, by the Welch and the inhabitants of the Orkneys. The colour is ſaid to be very fine.

bald LI'CHEN *cal'vus*. Between leprous and cruſtaceous, whitiſh, with fine black pores. Tubercles cuſhion-like, ſcattered, ſmooth, ſhining, dark tawney. DICKS. ii. 18.

Dickſ. 6. 4.

Cruſt thinniſh, extended, ſmoothiſh, dotted with numerous fine pores of different ſizes. *Tubercles* conſpicuous, rather looſely ſcattered, of the ſize of muſtard ſeeds. DICKS.

Rocks in mountainous parts of Scotland.

hornbeam LI'CHEN *carpi'neus*. Ground aſh-coloured. Tubercles whitiſh, wrinkled.—

Dill. 18. 11. *C. D?*

On the bark of hornbeam beech and aſh. HUDS.—[And lime trees. Mr. HOLLEFEAR.] P. Jan.—Dec.

grey LI'CHEN *cine'reus*. Ground with black tubercles edged with white.—

Hoffm. enum. 4. 3.—*Jacq. coll.* ii. 14. 5. *b.*

Cruſt rough, ſtony, varying much in thickneſs, grey white. *Tubercles* convex, black, ſitting, a little raiſed at the edge, ſurrounded by a white border, rather raiſed and ſcolloped when old. JACQ. coll. ii. 184.

Rocks and larger ſtones. P. Jan.—Dec.

LI'CHEN

LI'CHEN *coccin'eus*. Cruſt mealy, greeniſh brimſtone coloured. Tubercles immerſed, very red. DICKS. 8. *ſcarlet*

Dickſ. 2. 1.—*(In Hoffm.* 6. 5, *the ſaucers are not immerſed.)*

Differs from *L. ventoſus* in the cruſt being mealy, and not warty, hard and ſmooth, and in the tubercles being immerſed; of a very bright red with mealy edges. DICKS.

On the ſtones of Stone Henge, Wiltſhire.

LI'CHEN *con'fluens*. Cruſt whitiſh, or aſh-coloured. Tubercles very black, large, convex, at laſt confluent. WEBER. 108. *n.* 229. *confluent.*

Web. 2.—*Hoffm. lich.* 19. 1.

Cruſt grey, a line or more in thickneſs, wide ſpreading, cracked, white when broken. *Warts* very black, coaleſcing, ſo as often to cover the whole of the cruſt. HOFFMAN.

Variety 1. Surface reticulated.

Mich. 54. *ord.* 37. 7.

Rocks, England. DICKS. 9.—Scotland. Dr. J. E. SMITH.

LI'CHEN *coral'linus*. Branched, cylindrical, bundled, level topped, very much crowded, white.— *coral*

Jacq. coll. ii. 13. 2.—*Hoffm. enum.* 4. 2.—*(Dill.* 17. 36, *is certainly a different plant.)*

Similar to *L. calcareus*. Cruſt very thick, and when broken appearing compoſed of *threads* reſembling coral; the ends rounded, without tubercles. LINN.—Is it not a variety of *L. tartareus?* HUDS.—Weber's deſcription good. Mr. WOODWARD.—*Cruſt* thick, white, broad ſpreading on the rocks, appearing as if compoſed of ſmall branches, and when broken the branches appear diſtinctly, their tops forming the ſurface of the cruſt. *Tubercles* only on the old ſpecimens, hardly viſible to the naked eye, a little hollowed. Beſides theſe tubercles there are minute convex black dots on the cruſt. WEBER.—*Cruſt* a line in thickneſs, ſnow white, greyiſh with age, bearing on its ſurface little pillars like coralline, ½ a line high, convex at the ends. JACQ. coll. ii. 180.

Rocks, ſtony places, and mountainous heaths in Wales, the North of England, and in Scotland. P. Jan.—Dec.

LI'CHEN *ericeto'rum*. Ground clear white. Tubercles fleſh coloured. *heath*

Hoffm. enum. 8. 3.—*Dill.* 14. 1.—*Mich.* 59. *ord.* 35.

Tubercles convex, on foot-ſtalks, reſembling minute Agarics. LINN.—Sitting, and on foot-ſtalks. HUDS.—*Cruſt* granulated, rough, ſpread wide, grey green in moiſt, white in dry ſituations and ſeaſons. DILL. Turfy

Turfy heaths, ſides of peat bogs, gravel pits and on banks.
P. Jan.—Dec.

β Tubercles ſitting, flat.
Hoffm. 8. 1.—*Fl. dan.* 472. 4.

Cruſt thinner, more compact, with ſmaller granulations. *Tubercles* perfectly ſitting and in ſome meaſure immerſed in the cruſt. Mr. WOODWARD.

L. elveloides. Weber 186. Mr. WOODWARD.

beech LI'CHEN *fagin'eus.* Ground white. Tubercles white, mealy.—
Hoffm. enum. 2. 4.—*Mich.* 53. 2 *and* 1.—*Dill.* 18. 11. *A. B.*
At firſt powdery, when older granulated. *Tubercles* nearly flat, white, with a thin border. DILL.
On the bark of the Beech and Hornbeam, &c. P. Jan.—Dec.

wall LI'CHEN *fuſco-a'ter.* Cruſt brown. Tubercles black.—
Jacq. coll. ii. 14. 3.
Cruſt rough, mealy, thin, hardiſh, cloſely adhering, dirty obſcure grey. *Tubercles* lentil-ſhaped, convex, black, not bordered with a different colour. JACQ. *coll.* ii. 231.
On rocks and ſtones.
P. June—Dec. HUDS.—Jan. Dec. RELHAN.
β Tubercles black. Cruſt none. Scop. p. 364.—Weber p. 191.—Hagen. p. 49.
On ſoaking it in water ſome very fine branny flakes ſeparated from the indurated clay on which it grew. WITH.
[On a mud wall. Specimen from MAJOR VELLEY.—On rocks in the North. Dr. ALEXANDER.]

map LI'CHEN *geograph'icus.* Ground yellowiſh; with black lines reſembling a map.—
Hoffm. enum. 3. 1.—*Dill.* 18. 5.—*Fl. dan.* 472. 3, *probably from a ſpecimen turned whitiſh by age.*—(*Fl. dan.* 468. 1, *is a different ſpecies.*)
Cruſt orange-coloured, brittle, marked with black. *Tubercles* or prominent lines of the ſame colour. Grows on Granite and other compound ſtones, and is one of the few Britiſh vegetables that can bear the keen air of Skiddow's top. Mr. GOUGH.—*Cruſt* very thin, irregular in ſhape, yellow, hardly ſeparable from the ſtones on which it grows, marked with diſtinct, riſing, black lines dividing into compartments. *Tubercles* black, ſmall, but varying in ſize, not bordered. DILL.

Rocks

Rocks in the North of England; Steiperſtone, and Pentir; Scotland. [In the North of England in vaſt patches ſometimes ſpreading on a ſmooth rock 3 or 4 feet ſquare. Mr. Woodw.] P. Jan.—Dec.

LI'CHEN *granifor'mis*. Ground whitiſh, granulated. Tubercles black. HAGEN 47. *graniform*

Hagen 1. 2.

Cruſt ſtony, compoſed of minute granules, agglutinated in lines like the fibres of wood. *Tubercles* black, rather larger than the particles forming the cruſt. HAGEN.

On pales, and old willows. DICKS. 10.

LI'CHEN *immer'ſus*. WEB. 188.—Tubercles immerſed as it were in the ſtone, black. HALL. 2076. *ſunk*

Hoffm. lich. 12. 2 *to* 4.

Cruſt a white ſpot, ſcarcely diſtinguiſhable from a calcareous ſtone; in ſome inſtances mealy, in others white as milk, often interſected by black lines; marked with minute black hollow dots. *Warts* immerſed in the ſubſtance, ſmall, black, roundiſh, flat; at length convex, and eſcaping from the ſtone leaving a cavity. HOFFM. —*Cruſt* ſometimes greeniſh. WEBER.

On pieces of chalk. RELH. *n.* 1026.—On ragſtone and limeſtone long expoſed to the weather. WITH. P. Jan.—Dec.

LI'CHEN *lac'teus*. Ground white. Tubercles of the ſame colour, hemiſpherical.— *white*

Hoffm. enum. 4. 6.

On rocks and ſtones. HUDS. 526. P. Jan.—Dec.

LI'CHEN *muſco'rum*. Cruſt hoary. Tubercles black, connected.— *moſs*

Relh. at p. 424.

Cruſt mealy, friable, grey or greeniſh. *Tubercles* ſometimes flattiſh when dry, otherwiſe convex, ſhining, black, numerous, large, turban-ſhaped when old. WEBER.

On Moſſes. [On heaths. Mr. WOODWARD.—Gogmagog Hills. RELHAN.] P. Jan.—Dec.

LI'CHEN *ni'ger*. Ground black. Tubercles roundiſh, black.— *black*

Hoffm. enum. 3. 6, *ill done, th tubercles repreſented as if white.*

Cruſt granulated, hard, dry, very widely ſpreading. *Tubercles* convex, of the ſize of muſtard ſeeds. HUDS.

Rocks and large ſtones about St. Ive's, Cornwall, plentifully. [Rocks about Kirkby Lonſdale, Weſtmoreland. Dr. J. E. SMITH.]
P. Jan.—Dec.

eyed LI'CHEN *ocula'tus*. Cruſtaceous, rough, with fungous papillæ, white. Tubercles ſitting, or on foot-ſtalks, black. DICKS. ii. 17.

Dickſ. 6. 3.

Cruſt elevated into ſhort papillæ ſet very cloſe together, both ſimple and branched. *Tubercles* growing on the cruſt as well as terminating the papillæ and branches, ſometimes flat and depreſſed, ſometimes convex. DICKS.

Rocks and ſtones, Scotland.

Oeder's LI'CHEN *Oede'ri*. LINN. *the Son*.—Cruſtaceous, rough, red. Tubercles black. OEDER *fl. dan.* viii. 8.—Leprous-cruſtaceous, cracked, ruſty-red. Tubercles crowded together, growing in the ſubſtance of the cruſt, of different ſhapes, black, with an imperfect border. DICKS. ii. 17.

Hoffm. lich. 19. 2.—*Fl. dan.* 470. 1.—*Hoffm. lich.* 19. 3.

Mr. Dickſon cites Fl. dan. 470. 1; which agrees with HOFFMAN 19. 3. but from his ſpecific character it would rather ſeem that his plant is the variety figured by Hoffman 19. 2, as quoted above. *Cruſt* half a line thick, cracking into ſmall partitions when dry, colour of ruſty iron. *Tubercles* numerous, ſometimes crowded, blue-black, encompaſſed with a narrow margin, ſhining when wet, flat, but convex and perforated at the top when old. HOFFMAN.

Rocks and ſtones in Scotland.

pierced LI'CHEN *pertu'ſus*. Ground with ſmooth warts, ſet chequer-wiſe, and pierced with 1 or 2 cylindrical holes.—

Dill. 1. 8. 9.—*Jacq. coll.* ii. 13. 3.—*Fl. dan.* 766.—*Bolt.* 126.—*Hoffm. enum.* 3. 3.—*Wieg.* 2. 15.—*Fl. dan.* 468. 2?—*Mich.* 52. *ord.* 32 *to* 56. 2, *Lichenoides: in its earlieſt ſtage.*—*Hag.* 1. 3.

Ground leprous, white, thin, but where it produces fructifications thick, cloven into angular warts. LINN.—*Cruſt* thin. *Tubercles* innumerable, unequal, wrinkled, but ſmooth to the touch, grey green, hollow within, opening at the top with one or more apertures, correſponding with the number of cavities in the ſubſtance. DILL.

L. verrucoſus. Hudſ. ed. i. 445.

Banks of trees, rocks, and walls. P. Jan.—Dec.

LI'CHEN

LI'CHEN *quer'neus*. Cruſt yellowiſh, with a tinge of brown. Tubercles nearly immerſed, black. DICKS. 2. *Dickſ.* 2. 3. *oak*

Cruſt growing irregularly to the bark of trees, compoſed of granules of a pale yellow. *Tubercles* convex, unequal, which from the riſings of the cruſt ſometimes ſeem as if immerſed. Very much reſembling a *Byſſus*, but its fructification proves it to be a Lichen. DICKS. —*Cruſt* following the ſinuoſities of the bark, without any defined margin, compoſed of microſcopic granules of a dirty cream colour. *Tubercles* rather rare, minute, ſeldom ſo large as the ſmalleſt pin's head, blackiſh, irregularly diſperſed. Mr. WOODWARD.

On the trunks of oaks. [Frequently in patches of conſiderable extent, ſeldom more than 3 or 4 feet from the ground. Mr. WOODWARD.] P. Jan.—Dec.

LI'CHEN *ru'ſus*. Cruſt greeniſh. Tubercles moſtly on fruit-ſtalks, flattiſh, brown. HUDS. *brown*

Hoffm. enum. 8. 4.—*Dill.* 14. 2.

No proper cruſt for its baſe, but numerous, ſmall, whitiſh leafits, from whence ariſe grey green pedicles, ſupporting largiſh pale brown tubercles. DILL.

Heaths and ditch banks. Hampſtead Heath. DILL. A. Oct.—March.

LI'CHEN *rugo'ſus*. Ground whitiſh, diverſified with ſimple black lines and dots, ſet thick together.— *wrinkled*

Dill. 18. 2.—*Hoffm. enum.* 2. 5.

Cruſt very thin, white, with numerous black ſpots and lines. DILL.

Common on the bark of trees. P. Jan.—Dec.

LI'CHEN *rupic'ola*. Ground whitiſh. Tubercles pale, with white brims. LINN.—*Sometimes greeniſh, and without brims*. LINN. *rock*

Hoffm. enum. 6. 3.—*Hoffm. lich.* 22. 1 *to* 4.

Ground very thin. *Tubercles* ſometimes ſomewhat convex, greeniſh, giving to the plant a different appearance. LINN.—*Cruſt*, if any, very thin, white or greyiſh. *Warts* numerous, ſome with a thick border and a ſmall cavity in the middle, others nearly flat, irregular and angular, from their compreſſing one another, livid in the center, others again raiſed, ſurrounded ſpirally twice or thrice with a white or grey border, and hardly any central part. HOFFMAN.

On limeſtone rocks. P. Jan.—Dec.

black knobbed LI'CHEN *ſanguina'rius.* Ground greeniſh, inclining to aſh-colour. Tubercles black.—

Weig. obſ. 2. 13.—*Hoffm. enum.* 5. 3, *n.* 4, 4, 4, 4.—*Dill.* 18. 3.

Ground very thin, ſomewhat aſh-coloured. *Tubercles* ſomewhat globular, large, not gloſſy; brim imperfect, angular, not membranaceous. LINN. — When on rocks, rough and teſſellated. Linnæus ſays that the *tubercles* when broken are red within, which I have ſometimes found to be the caſe when growing upon rocks. LIGHTF.—And ſometimes though rarely when growing upon trees. Mr. WOODWARD.—*Cruſt* grey green on trees, whiter on ſtones, greener, thicker, and rougher on the ground. *Tubercles* from the ſize of a poppy ſeed to that of millet, without a border. DILL.

Rocks, walls, bark of trees, and turfy heaths. P. Jan.—Dec.

lettered LI'CHEN *ſcrip'tus.* Ground whitiſh, with black branching lines reſembling written characters.—

Mich. 56, *Lichenoides* 3.—*Hoffm. enum.* 3. 2, *a. c. d.*—*Dill.* 18. 1, *and* 55. 9, *being the ground on which a Bryum is depicted.*

Cruſt whitiſh, very thin, marked with various black lines like Arabic characters, by which it is readily diſtinguiſhable. DILL.

On elms and oaks. P. Jan.—Dec.

α LIGHTF. 800.—*Fructifications* large, black, in high relief, of no regular figure, bearing a rude reſemblance to Hebrew characters.

Hoffm. 3. 2. *f. (not e. as miſprinted.)*

β pulicaris. Tubercles ſmall, black, like fleas. LIGHTF. 801.

Mich. 56. 2.

In the crevices of the bark of old oaks. Sphæria ſulcata, *which ſee.*

ſpherical LI'CHEN *ſphæroi'des.* Ground aſh-coloured, greeniſh. Tubercles globular, fleſh-coloured. DICKS. 9.

Dickſ. 2. 2.

Cruſt between mealy and wrinkled, greeniſh with a tinge of ſea-green. *Tubercles* ſmall, ſpheroidal, dirty yellow or brown, heaped up into little cluſters. DICKS.

Heaths and woods. June.

ſulphureous LI'CHEN *ſulphu'reus.* Cruſtaceous, rough, brimſtone coloured. Tubercles black. HOFFM. 32.—Between leprous and cruſtaceous, cracked, ſomewhat hunched, pale brimſtone coloured. Tubercles irregular, minute, browniſh black. DICKS. ii. 17.

Hoffm. enum. 4. 1.—*Plant. lich.* 11. 3.

Cruſt like tartar, unequal, thickiſh, raiſed, cracked and teſſellated, pale ſulphur colour, white at the edge when broken. *Tubercles* at firſt numerous cloudy ſpots, at length riſing out of the cruſt, not readily

readily distinguishable from it but by the blackish or dirty reddish colour. HOFFMAN.

Rocks in Scotland.

LI'CHEN *vento'sus*. Ground yellow. Tubercles red. LINN.—*Ground becoming white by age*. WEBER. Dr. J. E. SMITH. *red spangled*

Web. 1. L. cruentus.—Fl. dan. 712, the lowermost figures, a good representation of the plant. The crust is described as greenish, and the saucers at the same time bordered with white.—Dill. 18. 14, on the authority of Mr. Lightfoot's examination of the Dillenian specimen. —Fl. dan. 472. 1, very ill done, if the plant.—Fl. dan. 470. 2, is said by Weber to resemble his plant in its younger state. The ground is described as white.*

Ground whitish, wrinkled, thick. *Saucers* convex, large, brownish red, the brims bent back so as to give them the appearance of tubercles. *Habit* that of *L. tartareus*. HUDS.—*Tubercles* large and irregularly shaped, at first very convex; through age flatter, and with a whitish margin from being surrounded by the crust, at length putting on the appearance of margined targets. The line between *tubercled* and *saucer-like Lichens* remains yet to be drawn; or rather it is more probable that future observations will entirely remove the artificial one at present formed. Mr. WOODWARD.

L. gelidus. Hudf. 528. Dr. J. E. SMITH.

On rocks. Pentir rocks in Wales. DILL.—And in the North of England, Yorkshire, and both the Lowlands and Highlands. [Above Bowness on the banks of Winandermere, and on Casterton Fell near Kirkby Lonsdale. Dr. J. E. SMITH.—Upon rocks on the sides and tops of hills in Dartmoor, Devonshire. Mr. NEWBERRY.]

P. Jan.—Dec.

LI'CHEN *verna'lis*. Ground whitish. Tubercles roundish, rust-coloured.— *rusty*

Hoffm. enum. 5. 1.—Dill. 18. 4, and the central part of 55. 8.

Ground ash-coloured-white. *Tubercles* nearly globular, jelly-like, crowded, sitting, without a cup-like brim. LINN.—*Crust* very thin, grey white. *Tubercles* of various sizes, not bordered. DILL.

L. ferrugineus. Hudf. p. 526.

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* I have specimens of Weber's L. cruentus from Yorkshire, and believe it to be quite a distinct species. Mr. RELHAN.—Certainly distinct from the upper fig. Fl. dan. 712, but I can perceive no specific distinction between it and the lowermost fig. WITH.

Barks of trees, old pales, and ſometimes walls and rocks.
P. Jan.—Dec.

β *Tubercles* browniſh, ſomewhat ſoft and jelly-like, not ſo diſtinct as α, but crowded together. Perhaps it may be a diſtinct ſpecies. LIGHTF.—They ſeem to me to be perfectly diſtinct. Mr. WOODW.

B. *With* SAUCERS. *Cruſtaceous, ſtudded with concave Receptacles.*

powdered LI'CHEN *albeſ'cens.* Cruſtaceous, aſh-coloured. Saucers concave, mealy, whitiſh. HUDS. ed. I. and II. 529.
Hoffm. enum. 7. 5. *a.*
Has the habit of *L. carpineus.* HUDS.
On walls and the bark of trees. P. Jan.—Dec.

rugged LI'CHEN *a'ter.* Cruſt whitiſh, wrinkled. Saucers black, borders white, moſtly ſcolloped. HUDS.
Dill. 18. 15. *A; and* 55. 8, *the parts next the fore edge of the ſtone on which the Bryum grows.—Huffm. enum.* 4. 4.
Saucers ſometimes very entire. HUDS.—*Cruſt*, when on trees, thin, aſh-coloured, hardly ſeparable from the bark; on ſtones, whiter, thicker, more wrinkled and more ſtony. *Shields* black, at firſt ſmall, without a border, as they grow larger, are nearly flat, and have a thin white border. DILL.
Common on walls, rocks, and barks of trees. P. Jan.—Dec.
β Cruſt thicker and whiter. Saucers, borders wrinkled and bent in. LIGHTF. *p.* 814.
On walls.

black and yellow LI'CHEN *byſ'ſinus.* HOFFM. *enum.* 46.—Cruſtaceous, powdery, blackiſh. Saucers flat, yellow, bordered with white. DICKS. ii. 19.
Hoffm. enum. 4. 7.
Trees and ſtones, Scotland.

bluiſh LI'CHEN *cæ'ſius.* Cruſtaceous, of a ruſty ochrey-colour. Saucers elevated, of a black bluiſh hue, bluntly bordered. DICKS. ii. 19.
Dickſ. 6. 6.
Cruſt equal, between wrinkled and tubercled, cracked. *Saucers* ſmall, numerous, ſcattered, black, covered with a ſea green bluiſh bloom, the bottom depreſſed, the margin convex and thick. DICKS.
On ſlate rocks in the mountains of Scotland.

golden LI'CHEN *candela'rius.* Cruſt deep yellow. Saucers pale yellow.—
Hoffm.

Hoffm. lich. 17. 3.—*Jacq. coll.* iii. 6. 1.—*Dill.* 18. 18. *B.*

Cruſt ſpreading wide, often to a hand's breadth, moderately thick, yellow. *Leaves* wrinkled, cloven, firmly fixed, lobes blunt, pulpy, with age uniting and becoming powdery. *Saucers* very numerous, yellow, to orange, greeniſh when wet. Subſtance whitiſh, friable. HOFFMAN.

L. candelarius α. Lightf. 811.

Rocks, walls, trunks of trees, old boards, and old pales.

P. Jan.—Dec.

LI'CHEN *caneſ'cens.* Cruſt expanded, whitiſh with a tinge of ſea green. Saucers very black. DICKS. 10.—Tubercles crowded. RELH. *n.* 846. *hoary*

Dickſ. 2. 5.—*Dill.* 18. 17. *A.*

Cruſt circular, 1 to 2 inches diameter, preſſed to, or hoary, wrinkled, lobed, reſembling ſmall leaves cohering together, ſprinkled in the center with mealy globules. *Saucers* ſmall, numerous in the center, the margin blunt, of the colour of the diſk. Being rarely found with *Saucers*, it has been ſuppoſed to belong to the *L. palleſcens.* DICKS.—Has nothing in common with *L. palleſcens.* Mr. WOODW. —*Cruſt* adhering very cloſely to the bark of trees, and the ſides of walls, in circular patches from ½ to 3 inches over, aſh-coloured, wrinkled, leſs wrinkled in the center, rather leafy at the edge. DILL.

L. incanus. Relh. n. 846.

Walls and trunks of trees. [Very common on old trees, but rarely in fructification. Mr. WOODWARD.]

LI'CHEN *cupula'ris.* Cruſtaceous, whitiſh-green. Saucers hemiſpherical, very pale brick-coloured, the border convex and whitiſh. HEDW. *ſtirp.* ii. 58.—Cracked, with black dots. *Saucers* concave, reddiſh. DICKS. ii. 18. *acorn-cup*

Hedw. ſtirp. ii. 20. *A.*

Slate rocks in Scotland.

LI'CHEN *flaveſ'cens.* Cruſt of a yellow greeniſh hue. Saucers reddiſh yellow. HUDS. *ed.* i. *and* ii. 528. HOFFM. 59. *yellow*

Dill. 18. 18. *A. C.*—*Hoffm. enum.* 9. 3, *is jagged.*

Habit that of *L. candelarius*, but the *cruſt* circular, wrinkled, greeniſh; and the *ſaucers* of a browniſh yellow hue, or earthy yellow; convex. HUDS.

Bark of trees, walls, rocks, and ſtones. P. Jan.—Dec.

LI'CHEN

orange LI'CHEN *flavo-rubeſ'cens.* Cruſt of an aſh-coloured-greeniſh hue. Saucers orange-coloured. HUDS. *ed.* 1 *and* ii.

Fl. dan. 955. 1.

L. aurantiacus. LIGHTF. 810.

Trunks of trees, rocks and ſtones. P. Jan.—Dec.

frigid LI'CHEN *frig'idus.* Cruſtaceous, whitiſh, ſomewhat ſhrubby; little branches very ſhort, crowded. Saucers bordered, tile-coloured. LINN. *the Son, in Syſt. veg.* 958.—Expanded, ſhrub-like, white. Saucers flat, ochrey-fleſh-coloured, borders white. DICKS. ii. 19.

Linn. fil. muſc. 2. 4.

On the tops of the Highland mountains.

browniſh yellow LI'CHEN *fuſco-lu'teus.* Cruſtaceous, whitiſh, conſiſting of granulated maſſes. Saucers flat, dirty yellow, imperfectly bordered. DICKS. ii. 18.

Dickſ. 6. 2.

Cruſt cohering, covering Moſſes and other dead plants on which it grows, ſo that it has the appearance of having leaves and branches. *Saucers* of middling ſize, covered with a yellow meal, which being rubbed off they appear black, whence their general dirty hue. *Border* viſible by means of a magnifying glaſs. DICKS.

On Ben Lawers and other mountains of Scotland.

broad LI'CHEN *gel'idus.* Cruſtaceous, whitiſh. Saucers with tubercles, wrinkled, tile-coloured. LINN.—Nearly orbicular, ſomewhat wrinkled, plaited-cracked, the center bearing tubercles. Saucers concave, red, with a border formed by the cruſt. DICKS. ii. 19.

Fl. dan. 470. 2.—*(Dill.* 18. 18. *a. c. is referred to by Linn. not as being the plant, but as it would afford a good repreſentation of it, provided the targets were twice as large, were all convex, and not bordered.)*

Cruſt leafy, circular, ſo cloſely growing to the rocks as not to be ſeparated from them; whitiſh, longitudinally wrinkled. *Tubercles* occupying the center of the cruſt, reddiſh tile-coloured, convex, conſiderably elevated, with ray-like plaits, without any border. LINN. —The redneſs of the ſaucers diſappears when the plant is dry. DICKS.

L. heclæ Oeder fl. dan. viii. 8, as Oeder very rightly conjectured. As Linnæus had not obſerved any ſaucers, he only mentioned a tubercle

tubercle in the centre.—*L. gelidus.* Hudſ. 528, is a very different plant. DICKS.—See *L. ventoſus.*

Rocks in the Highland mountains.

LI'CHEN *gibbo'ſus.* Cruſtaceous, warty, brown. Saucers nearly immerſed, black, bordered by the cruſt. DICKS. ii. 20. *gibbous*

Dickſ. 6. 5.

Cruſt thickiſh, unequal, hunched, with warts. *Saucers* ſhining, as if clammy, the border thick, and in reality nothing more than a projection of the cruſt. DICKS.

On alpine rocks. On the ſummit of Ben Lawers.

LI'CHEN *lentig'erus.* Cruſt whitiſh, ſomewhat lobed. Saucers yellowiſh when full grown, white at the edge. LINN. *the Son.*—Tiled. Leafits lobed, rounded, ſcolloped, white. Saucers yellow. RELH. n. 865. *white*

Relh. at p. 430.—*Weber* 3.—*Hoffm.* 9. 4.—*(Mich.* 51. 2, *a different ſpecies.)*

Cruſt pure white, ſhining, divided into lobes ſo as to appear of the leafy kind, expanding into flat circular tufts. *Saucers* ſmall, concave, at firſt of the ſame colour with the cruſt. LINN. *the Son, from Weber.*—*Cruſt* leafy. *Saucers,* at length becoming convex tubercles. WEBER. 192.—*Saucers,* the younger very ſmall. RELH.—*Leaves* cream-coloured, cloſely tiled. *Saucers* tawny. Mr. WOODWARD.

Heaths and dry paſtures. Gogmagog Hills, Newmarket, and a heath near Newmarket. P. Jan.—Dec.

LI'CHEN *leucophæ'us.* Cruſtaceous, aſh-coloured-brown. Tubercles brown. VAHL. *fl. dan.* xvi. 8.—Cruſtaceous-tiled. Leaves very minute, between ſcolloped and with many clefts, ſea-green-brown; the ends thicker, very blunt, white and mealy. Saucers flat, black with whitiſh borders. DICKS. ii. 20.—Saucers when moiſtened bay. DILL. *bluiſh*

Fl. dan. 955. 2.—*Dill.* 82. 2.

Compoſed entirely of granulated particles of a greyiſh blue colour, out of which riſe a few *tubercles,* flat, fleſhy, light reddiſh colour when freſh, blackiſh when dry. The under ſide of the cruſt is black, ſpongy, and like as if it had been burnt. DILL.

On rocks thinly covered with ſoil, in the Highlands.

LI'CHEN *lu'teus.* Cruſt of an aſh-coloured greeniſh hue. Saucers yellow, edged with the ſame colour. DICKS. 11. *yellow*

Dickſ.

Dickſ. 2. 6.

Cruſt a hoary meal, often ſcarcely diſcernible, finely ſprinkled over a ſtratum of moſs, or merely tinging it of a whitiſh hue. *Saucers* deep yellow, numerous, of a middling ſize, flat, ſometimes 2 or 3 together, the reſt ſcattered. DICKS.

Trunks of trees.

marble LI'CHEN *marmo'reus*. SCOP. *n.* 1379.—Cruſtaceous, ſomewhat aſh-coloured. Saucers fleſh-coloured, ſomewhat hairy. HOFFM. 44.—Powdery. Saucers ſlightly concave without, and at the edge ſomewhat hairy and white. DICKS. ii. 18.

Hoffm. enum. 6. 4, *(not Jacq. coll.* ii. 13. 1.)

On the bark of trees, and on the bare ground covered with decayed moſs, in Yorkſhire, Derbyſhire, and Scotland.

wall LI'CHEN *mura'lis*. Tiled, greeniſh with a tinge of yellow. Saucers of the ſame colour, at length yellow, borders pale. SCHREB. *lipſ.* 130.—Somewhat tiled. DICKS. 11. RELH. *n.* 1028.

Hoffm. lich. 16. 1.—*Jacq. coll.* ii. 13. 4. *a.*—*Mich.* 51. 4.—*Hoffm. enum.* 11. 1, *(not* 9. 1, *as cited in the deſcription.)*

Dry, friable, circular, leafy at the edge, leaves crowded, preſſed and firmly fixed to the ſtone or wood on which it grows, narrow, cut into ſegments, ſcolloped and cloven at the end. *Saucers* in the central part, very numerous, almoſt covering it, varying in colour, flattiſh, grey green, yellowiſh, tawny, reddiſh or brown, paler at the edge. Whole plant greeniſh when young and wet, dirty grey or yellow brown when old and dry. HOFFMAN.

(Not *L. palleſcens* under which Reichard has inſerted it as a ſynonym. No one who had examined both could poſſibly ſuppoſe them the ſame. It much more nearly reſembles *L. cartilagineus*. Mr. WOODWARD.)

Rocks and old walls. [Not uncommon. Mr. WOODWARD.]

P. Jan.—Dec.

pale LI'CHEN *palleſ'cens*. Cruſt whitiſh, ſaucers pale.

Hoffm. enum. 10. 2. 1.—*Dill.* 18. 17. *B*, *(A is L. caneſcens of Dickſ.)*

Can ſcarcely be ſaid to have any *cruſt*, being uſually nothing more than a congeries of *ſaucers*, frequently ſo crowded as to form a convex ſurface, the inner ones being preſſed upwards by the outer. Mr. WOODW.—Growing in a circular form, often covered with a powdery, greeniſh ſubſtance. *Saucers* greatly crowded, of no regular ſhape, ſmall, flat, preſſed together, grey green or lead colour, border white. *Cruſt* irregular, aſh-coloured, leafy at the edge. DILL.

Rocks, walls, and trunks of trees. P. Jan.—Dec.

LI'CHEN

LI'CHEN *pal'lidus*. Hoffm.—Cruſtaceous, ſlightly woolly, hoary. Saucers elevated, flat, rough, brown; the border waved, white. Dicks. ii. 19. *pale*

Hoffm. enum. 5. 2.—*Hoffm. lich.* 17. 2.

Cruſt unequal in thickneſs; very white, greyiſh with age. *Saucers* when young, whitiſh grains, with a very ſmall aperture; when opened, pale fleſh or reddiſh colour. Hoffman.

On the clefts of the bark of trees, and on dry wood.

LI'CHEN *Parel'lus*. Cruſt white. Saucers concave, pale, with blunt brims.— *crab's-eye*

Hoffm. enum. 6. 2.—*Dill.* 18. 10.—*Hoffm. lich.* 12. 5.—*Pet. muſc. f.* 79.

Sometimes ſo different in its appearance as to be with difficulty known, the *cruſt* being much thinner, and the *ſaucers* larger and flatter than common. *Cruſt* thick, warty, white in its fracture, reddiſh when wet and rubbed to powder. *Saucers* numerous, whiter than the warts, globular but depreſſed in the center, larger and flatter with age. Hoffm.—*Cruſt* wrinkled, granulated, ſtony to appearance, not gritty when chewed, but rather tough; yellowiſh when cut. *Saucers* like crab's eyes, whitiſh. Dill.—Litmus is prepared from this ſpecies. For this purpoſe it is gathered from the rocks in the North of England, and ſent to London in caſks. With.

Rocks, walls, ſtones, trunks of trees. [Malvern Hills, Worceſterſhire. St.—On the ſmooth bark of a beech in Hertfordſhire. Mr. Woodward.] P. Jan.—Dec.

LI'CHEN *pezizoi'des*. Cruſt fugacious. Saucers yellow, crowded, bordered. Weber 200. *Peziza*

Dickſ. 2. 4.—*Hoffm. enum.* 7. 6.

Cruſt ſea-green, blackiſh when old, not always to be found. *Saucers* yellow when young, browniſh afterwards, at length quite brown; ſhining, flattiſh but ſometimes convex, border raiſed, ſcolloped, ſea-green. Weber.

Sandy banks.

LI'CHEN *rimo'ſus*. Retz. *ſcand.* 1339.—Ground whitiſh, full of chinks; the portions roundiſh, angular. Saucers ſea-green, with white brims. Oeder in fl. dan. viii. 8. *chinked*

Fl. dan. 468. 3.

Rocks and ſtones in Yorkſhire. Dicks. 12.

LI'CHEN *ſcrupo'ſus*. Cruſt aſh-coloured, granulated. Saucers immerſed, black, finely ſcolloped at the edge. Schreb. *ſpic.* 133. Dicks. p. 11. *hollowed*

Hoffm.

Hoffm. lich. 11. 2.—*Hall. enum.* 2. 6, *at p.* 91, *repr. in hiſt.* 47. 6, *at* iii. *p.* 88.—*Dill.* 18. 15. *B.*—*Hoffm.* 6. 1.

Cruſt when moiſt greeniſh-aſh-coloured, when dry greyiſh. Mr. Woodw.—Cruſty, thick, cracked, warty, grey; whitiſh when thinner, brittle when dry. *Saucers* ſunk in the cruſt, hollow, lead-coloured. Hoffman.

L. excavatus. Relh. p. 426.

Walls and dry heaths, Gogmagog Hill, Newmarket Heath. [On walls frequent, Norfolk and Suffolk. Mr. Woodward.]

P. Jan.—Dec.

β Cruſt widely expanded, thicker. Relh.

On walls.

brown-ſpangled LI'CHEN *ſubfuſ'cus.* Cruſt whitiſh. Saucers black; the younger pitcher-ſhaped and hollow. Linn. *ſyſt. veg.* 958.—Browniſh, border aſh-coloured, ſometimes ſcolloped. *Sp. pl.* 1609.

Dill. 18. 16. *A, A, in two compartments of fig.* 3 *and* 4 *of the upper row.—Hoffm. enum.* 5. 3, *the compartments numbered* 3, 3, 3, 3. *—Dill.* 18. 16. *B, the borders ſcolloped.*

On the bark of trees, and walls. P. Jan.—Dec.

ſub-imbricated LI'CHEN *ſub-imbrica'tus.* Cruſt aſh-coloured, ſomewhat tiled. Saucers black, crowded, borders white. Relh. *n.* 856.

Relh. at p. 427.

Cruſt circular, thick, ſomewhat tiled at the edge, 1 to 4 inches in diameter. *Saucers* very numerous. Relh.—Has a tendency like the *centrifugus* to loſe its central part, which falling off with the old ſaucers, leaves only the ſomewhat tiled leaves. Mr. Woodward.

Stones and walls. P. Jan.—Dec.

tartareous LI'CHEN *tarta'reus.* Cruſt greeniſh, with a tinge of white; ſaucers yellowiſh, white at the edge. Linn. —Cruſt whitiſh. Saucers yellow. Huds.

Dill. 18. 13, *referred to by Hudſ. and Lightf. is the plant here intended and which correſponds with the Linnæan character.—Fl. dan.* 712. 1.—*Pluk.* 90. 4, *the ſaucers ſeparate.—(Dill.* 18. 12, *and Mich.* 52. *ord.* 33, *are referred to by Linnæus, Pollich, and Hagen, but the ſaucers of Dillenius's plant are deſcribed as brown, and thoſe of Micheli's as black.)*

Subſtance tough, not gritty; acrid. *Cruſt* thickiſh, wide ſpreading, greatly wrinkled, reticulated underneath, growing on other decayed moſſes. *Saucers* large, deeply concave, borders ſometimes ſcolloped.

ſcolloped. DILL.—It aſſumes various appearances. Sometimes has a thinner and more uniform cruſt than uſual, thickly covered with white tubercle-like excreſcences, and free from ſhields except in the center, where they are ſo thickly crowded as to be confluent. Sometimes it grows on moſs, the branches of which are ſurrounded with it exactly like the incruſtations formed by ſprings abounding in a calcareous earth running over a bed of moſs. Mr. WOODW.

Rocks and large ſtones. North of England, Devonſhire and Wales. Bingley, Yorkſhire, Caernarvon, Highlands and Lowlands. [Stierperſtone, Shropſhire. DILL. ST. — Malvern Hills. Mr. BALLARD. ST.] P. Jan.—Dec.

It is common in Derbyſhire, and incruſts moſt of the ſtones at Urſwic Mere. It is gathered for the dyers, by peaſants who ſell it for a penny a pound. They can collect 20 or 30 pounds a day. It gives a purple colour.

LI'CHEN *upſalien'ſis*. Cruſt, with awl-ſhaped, ſcored leaves.— *upſal*

Dickſ. 2. 7.—*Hoffm. enum.* 7. 1.—*Hoffm. lich.* 21. 2.

Of the ſize of *L. ſaxatilis*, aſh-coloured, white, compoſed of briſtles; *briſtles* ſtraight, white, withering, proſtrate, unequal, confuſed, very ſimple, as long as the nail, very brittle, frequently ſeveral united at the baſe. *Saucers* white, with a blunt border, rather large, from the root, not placed on the briſtles. LINN.—*Cruſt* of a milky whiteneſs, very brittle, inveſting ſlender leaves of graſs or moſs. *Saucers* globular, dimpled, crowded, cream coloured. HOFFM.

Heaths near Norwich.

C. TILED. *Leaves ſpreading flat, and fixed to the ſubſtance on which they grow.*

LI'CHEN *carno'ſus*. Tiled. Leafits very much crowded, nearly upright, rounded, torn, the margin mealy. Saucers thick, elevated, flat, reddiſh brown. DICKS. ii. 21. *fleſhy*

Dickſ. 6. 7.

Leaves minute, browniſh green, curling when dry. *Saucers* rather remote, ſome connected, riſing from between and ſomewhat higher than the leaves, fleſhy, ſmooth, paler underneath. DICKS.

Rocks on the mountains of Scotland.

LI'CHEN *cartilagin'eus*. Tiled. Leaves ſcolloped, pale, griſtly. Saucers flat, tawny. LIGHTF. 815.— Leaves lobed, rounded, greeniſh. HUDS. 530. *griſtly*

Mich.

Mich. 51. *ord.* 30. 1.—*Hoffm. enum.* 19. 1.—*Dill.* 24. 74. —*Mich.* 51. *ord.* 30. 2, *in its younger ſtate?*—*(In Mich.* 48. 2, *the ſaucers are much larger than in this ſpecies.)*

Leaves ſmall, roundiſh, ſomewhat notched, very thick, of a yellow herbaceous hue, HUDS.—fleſhy. *Saucers*, the young ones concave and regular, the old ones flat and irregular. Mr. WOODWARD.

L. craſſus. Hudſ. 530.

Rocks thinly covered with earth, and mountainous heaths. Near Newborough, on Llandwellyn Rocks; on Glyder Hill; about Malham, Yorkſhire, Weſtmoreland, and King's Park, near Edinburgh. P. Jan.—Dec.

ſpreading LI'CHEN *centrif'ugus.* Tiled. Leaves with many imperfect clefts; ſmooth; whitiſh; pointing from a center. Saucers reddiſh brown.—

Hoffm. enum. 10. 3.—*Dill.* 24. 75.—*Hoffm. lich.* 16. 2.—*Fl. lapp.* 11. 2.—*Buxb.* ii. 7. 3.

Diſtinguiſhable at firſt ſight by ſpreading from a centre to the circumference and gradually decaying in the middle. LINN. *ſuec. n.* 1074.—Circular, flat, outer leaves largeſt, tiled, neatly ſcolloped and curled, with many clefts. Colour greeniſh, glaucous, or yellowiſh when growing on wood. *Surface* minutely dotted with black or rough with very minute cylindrical ſubſtances. *Saucers* in the center, crowded, large, irregular, red brown or black. HOFFMAN.—Weis's and Lightfoot's deſcriptions good. *Leaves* uſually covered with numerous granulations like *L. phyſodes*, and others of this diviſion. *Saucers*, the ſmall ones cup-ſhaped, and regular, the large ones much and variouſly difformed, in age the brown part dropping out, leaving the exterior cup which is then of the ſame colour with the leaves, except that the inſide is rather greener. Mr. WOODWARD.—*Leaves* diſpoſed in a circular form, the outer ones the largeſt, elegantly ſcolloped, laid like tiles one over another, yellow green, black on the under ſide. *Saucers* reddiſh brown, edged with yellow green. DILL.

Rocks, walls, large ſtones, and trunks of trees. P. Jan.—Dec.

curled LI'CHEN *criſ'pus.* Tiled. Leaves lobed; lopped; ſcolloped; blackiſh green. Saucers of the ſame colour, HUDS. *ed.* i. LINN. *ſyſt. veg. ed.* xii. *and* xiv.—blackiſh brown. HUDS. *ed.* ii.

Dill. 19. 23.

Diſtinguiſhable from *L. criſtatus* by its being more curled and leſs jelly-like, the lobes of the leaves being round, blunt, and not divided as in *L. criſtatus.* Mr. WOODWARD.—*Leaves* dark green, rather

rather thick, divided into broad ſhallow lobes, innermoſt leaves ſmalleſt, curled. Lobes blunt, ſcolloped in the ſummer, hardly perceptibly ſo in the ſpring. *Saucers* dark green, lying flat on the leaves; border granulated. DILL.

Shady places on ſtones and at the bottom of walls.

A. Oct. — June.

LI'CHEN *criſta'tus*. Tiled, between toothed and fringed. Saucers larger than the leaves.— *creſted*

Dill. 19. 26.—*(Dill.* 19. 25, *is L. marginalis.)*

Leaves, their creſted appearance beſt obſerved in the young plants. *Saucers* ſometimes very large and confluent. Mr. WOODW.—*Leaves* glaucous green, crowded, tiled, thick, flat, cut at the edges into many ſhallow ſegments. *Saucers* at the baſe of the leaves, very broad, ſcarcely concave, brown or reddiſh brown in the center, border the colour of the leaves. DILL.

Rocks, ſtones, walls, and ſhady ſtony places. [On the ground. Mr. WOODWARD.] A. Oct.—July.

LI'CHEN *decip'iens*. HEDW. *ſtirp.* ii. 7. Tiled. Leaves nearly circular, rather diſtant, full tawny; white underneath and at the edge. Saucers on the edge, convex, black. DICKS. ii. 21.—*Leaves* lobed, ſhining, browniſh. *Saucers* browniſh, the border white, ſtar-like. RELH. *n.* 866. *deceiving*

Hedw. ſtirp. ii. 1. *B.*

Very beautiful. *Saucers*, the edges ſilvery white. RELHAN.—*Saucers* very numerous, bright browniſh colour, the margins ſcolloped, white, ſhining, the younger flat, the older irregular and deformed, in age black. Mr. WOODW.—Flat, expanded, rather thick; roundiſh when young, oblong when old, rather concave, ſmooth, brick colour, paler when dry. HEDWIG.

L. ſtellatus. Relh. 430.

On the ground on heaths, dry paſtures, and barren places. Gogmagog Hills, Newmarket Heath, in Surry and Scotland.

P. Jan.—Dec.

LI'CHEN *fahlunien'ſis*. Tiled. Leaves ſtrap-ſhaped, forked, flattiſh, pointed, black. Saucers black.— *cork*

Fl. dan. 958.—*Jacq. miſc.* ii. 10. 2.—*Dill.* 24. 81.—*Hoffm. enum.* 17. 2.

Circular, leathery, thin, both ſurfaces ſhining, brown changing to black, curled at the edge, lobes blunt, white within. *Saucers* very numerous and crowded on the upper ſurface, concave, black, ſhining. JACQUIN. Rocks

Rocks and large ſtones, on the Highland mountains. LIGHTF.—Near Langdale, Lancaſhire. HUDS. P. Jan.—Dec.

river LI'CHEN *fluviat'ilis*. Tiled. Leaves lobed, ſomewhat ſcolloped, convex, blackiſh green. Saucers globular, hollow, of the ſame colour. HUDS. 536.

Dill. 19. 28.

Fixed by the center. *Leaves* or ſhoots variouſly divided, convex above, concave below, the ends with ſmall indentations; hardiſh, gelatinous and pellucid when viewed againſt the light, dirty green, black above when dry and grey underneath. The leaves are proliferous, but not jointed. DILL.

On ſtones under water in alpine rivulets. In a ſtream coming out of Malham Cove, Yorkſhire, and in the rivulets on Snowdon. DILL. P. Jan.—Dec.

fuſcous LI'CHEN *fuſ'cus*. HUDS. 533, and 659.—Tiled. Leaves very narrow, matted, jagged, brown, convex above, the ends bent down. Saucers browniſh black. LIGHTF. 825.—Leaves with many clefts, browniſh. HUDS.

Dill. 24. 69.—*Mich.* 51. 6.

Saucers very numerous, and frequently ſo crowded as to deform one another, borders thick. *Tubercles* beſides, of the ſame colour as the leaves. Mr. WOODW. — *Leaves* cut into very narrow ſegments, ſmooth, with numerous black fibres underneath. DILL.

L. pullus. Lightf. 825.

Rocks and larger ſtones near Bangor and other places in Wales, Weſtmoreland, and Scotland. P. Jan.—Dec.

granulated LI'CHEN *granula'tus*. Tiled. Leaves roundiſh, ſcolloped, roughiſh, blackiſh green. Saucers concave, tawny, HUDS. 536.—the diſk depreſſed. LINN. *the Son, ſuppl.* 450.

Fl. dan. 462. 1.—*Dill.* 19. 24.

Grows in a circular form. *Leaves* variouſly jagged, lobes blunt, ear-ſhaped in the middle part, with numerous fleſhy ſhining globules in the hollow part, of the colour and ſubſtance of the leaves. DILL.

Cloſely adhering to the gravel and pebbles of the walks of Oxford Phyſic Garden. DILL.—[On a wall near Kirkby Lonſdale. Dr. J. E. SMITH.] P. Jan.—Dec.

LI'CHEN *lu'ridus* SWARTZ.—Tiled; apparently cruſtaceous. Leaves minute, indented, thick, browniſh green, white underneath. Tubercles black. DICKS. ii. 20. *lurid*

Mich. 54. *ord.* 36. 4, *cop. in Dill.* 30. 134.

Leaves almoſt inconſpicuous, green, tiled. *Fructifications* black. Grows on old walls. MICHELI.

On rocks on the mountains of Scotland.

LI'CHEN *margina'lis*. Tiled. Leaves with many clefts, tooth-ſcolloped, blackiſh green. Saucers on the edge of the leaf, flattiſh, blackiſh brown. HUDS. 534. *marginal*

Dill. 19. 25.

Leaves lying on the ground, brown green, black when dry, their ends frequently cut and curled. *Saucers* numerous, ſmall, concave, bordered, brown green when freſh, reddiſh when dry. DILL.

Rocks, and ſtones in the Northern parts of Britain, and in Caernarvonſhire. Near Lucton, Herefordſhire. DILL.—[Walls about Settle and Kirkby Lonſdale. Dr. J. E. SMITH.] A. Oct.—June.

LI'CHEN *oliva'ceus*. Tiled. Leaves lobed, ſhining, of a livid hue.— *olive*

Hoffm. enum. 13. 5.—*Dill.* 24. 78.—*Vaill.* 20. 8.

Olive green, black underneath. *Saucers* green within, grey on the outſide, ſitting, flat or concave, border ſcolloped, granulated. DILL.

L. olivaceus β Hudſ. 532.

Rocks, ſtones, and trunks of trees. In the wood on Shooter's Hill, Kent. Slinford, Suſſex, and Bagley Wood near Oxford.

P. Jan.—Dec.

β POLL.—Saucers ſmooth. DILL. 182.

Hoffm. 13. 3 *and* 4.—*Dill.* 24. 77.—*Mich.* 51. *ord.* 19.

Generally grows in a circular form; thin, cruſtaceous, cloſely adhering. *Leaves* ſmooth, rather ſhining, brown green, ſegments blunt. *Saucers* rarely found, but where they do exiſt, the leaves are more cut and ſcolloped, The plants without ſaucers have numerous granulations in their ſubſtance. DILL.

L. olivaceus α Hudſ. 532.

On the bark of trees.

γ HUDS.—Segments broader, more wrinkled, the middle elevated into wrinkles, ſprinkled with numerous ſmall grainlike warts. Saucers none. DILL. 183.

On birch trees. DILL.

purple LI'CHEN *omphalo'des*. Tiled. Leaves with many clefts, ſmooth, blunt, hoary, ſprinkled with ſcattered riſing dots.—

Dill. 24. 80.—*Vaill.* 20. 10.—*Hoffm. enum.* 12. 2.—*Jacq. coll.* ii. 15. 2. *a. b.*—*Mich.* 49. 2.

Colour dull purple, ſhining, ſmooth, with numerous black fibres underneath. *Leaves* interwoven, about an inch long. *Saucers* dull purple, and ſmooth within, grey on the outſide and hairy, cracked at the edge. DILL.

Cork, Corker, or Arcell. Kenkerig Welſh.

On rocks. Jan.—Dec.

It dies wool of a brown reddiſh colour, or a dull but durable crimſon or purple, paler but more laſting than that of Orchal. It is prepared by the country people in Ireland by ſteeping it in ſtale urine, adding a little ſalt to it, and making it up into balls with lime. Wool dyed with it and then dipped in the blue vat becomes of a beautiful purple. With rotten oak it makes a good dark brown frize. Wool dyed with red wood, or ſanders, and afterwards in corker, becomes of a dark reddiſh brown. RUTTY.—It has been uſed as a ſtyptic.

palmated LI'CHEN *palma'tus*. Tiled. Leaves ſomewhat hand-ſhaped, and ſcolloped, of a ſea-green purpliſh hue. Saucers tawny. HUDS. 536.

Dill. 19. 30.—*Vaill.* 21. 15.

Grows cloſely crowded and tiled. *Leaves* very tender, pellucid, rather gelatinous, very much cut, ſegments ending in 2, 3, or 4 horn-ſhaped teeth, dull brown, or purpliſh green, convex above, concave underneath. DILL.

Heaths and trunks of trees among moſs. A. Sept.—June.

common LI'CHEN *parieti'nus*. Tiled. Leaves curled, deep yellow. Saucers the ſame colour.—

Dill. 24. 76.—*Col. ecphr.* i. 331. 2.—*Hoffm. enum.* 18. 1.

Agrees with *L. candelarius* and *juniperinus* in colour, but the former conſiſts merely of branny ſcales, the latter of looſe leaves. The *parietinus* is an intermediate ſpecies. LINN. *ſuec. n.* 1080.—*Cruſt* indented, wrinkled, margin leafy. *Leaves* cut, and ending in blunt ſegments. *Saucers* on the foliage as well as on the central cruſt, ſmall, yellow, with a border of the ſame or a paler colour. Varies in colour from greeniſh to deep golden yellow. Grey underneath. DILL.—In age frequently loſing its central *leaves* and *targets*, like the *centriſugus*. Mr. WOODWARD.

Trunks

Trunks of trees, walls, tiles, wood, and ſtones. P. Jan.—Dec.
It affords a yellow dye.

LI'CHEN *phyſo'des*. Tiled. Segments blunt, ſomewhat inflated.— *inflated*

Hedwig. theor. 31. 183. 184. 185.—*Dill.* 20. 49.—*Hoffm. enum.* 15. 2.—*Mich.* 50. *ord.* 25. 1. 2.—*Fet. gaz.* 14. 6, *not a good repreſentation.*—*(Fl. lapp.* 11. 2, *is L. centrifugus.)*

Grows half upright, variouſly cut and divided, the ſhorter plants moſt cut, and aſſuming a circular figure. Segments blunt, as if lopped at the ends, and with 2, 3, or 4 clefts. *Leaves* ſmooth, grey white or glaucous green, and convex above, hollowed, black, and rough underneath; formed of 2 layers with a hollow between them, which is peculiar to this ſpecies. The whole plant more or leſs mealy. *Saucers* on ſhort foot-ſtalks, concave, brown green or reddiſh or yellowiſh brown within, the outſide the colour of the plant. In my ſpecimens thoſe plants only are mealy which have no ſaucers. DILL.

Trunks of trees, ſtones, and heaths. P. Jan.—Dec.

LI'CHEN *plum'beus*. Tiled. Leaves bluntly lobed, lead-coloured, blue and ſpongy underneath. Saucers reddiſh ruſt-coloured. LIGHTF.—Leaves rounded, ſcolloped, very woolly underneath. Saucers tawny. HUDS. —*Leaves when dry aſh-coloured or yelloweiſh white, and in long preſervation the blue ſpongy hairs turn white.* LIGHTF. *lead-coloured*

Lightf. 26, *at p.* 826, *cop. in Hoffm. enum.* 21. 2.—*Dill.* 24. 73.—*Mich.* 43. *ord.* 23. 1.

Leaves, the blue ſpongy hairs frequently extending beyond the edge. *Shields* browniſh red, ſcolloped when old, their brims of the colour of the leaves, LIGHTF.—ſmall. *Leaves*, the edges and woolineſs on the under ſurface blue. HUDS.

L. cæruleſcens. Hudſ. p. 531.

Trunks of trees. Near Pentir and Bangor. DILL.—About Bradford, Yorkſhire. About Drumlanrig, and in Barntimpenn Linn, about five miles from Moffat. Dr. BURGESS *in Fl. ſcot.*—[On the great iſland in Winandermere. Dr. J. E. SMITH.—On trunks of oak, aſh, and elm, Devonſhire, very common. Mr. NEWBERRY.]
P. Jan.—Dec.

LI'CHEN *ſaxat'ilis*. Tiled. Leaves indented, rough, pitted. Saucers cheſnut-coloured.— *ſtone*

Hoffm. enum. 16. 1.—*Dill.* 24. 83.—*Vaill.* 21. 1.—*Mich.* 41. *ord.* 22. 1.—*H. ox.* xv. 7. *row* 4. 6.—*(Hoffm. enum.* 15. 1, *is a*

good representation of it, but is described as having saucers of the same colour with the leaves.)

Lightfoot's description good. The *mealy tubercles* found on the old and shield-bearing plants as well as on the younger. Mr. Woodw.—Circular when young, and from ½ to 1 inch diameter. *Leaves* short, segments broad, blunt, scolloped and indented at the ends; pitted on the upper surface, glaucous green; black and fibrous underneath; sometimes smooth, though pitted; sometimes rough with flat mealy eminences. *Saucers* seldom found, reddish or blackish, the border the colour of the leaves. Dill.

Stones, rocks, and trunks of trees. P. Jan.—Dec.

It is used by the inhabitants of the North to dye purple.

β Huds.—Leaves sometimes in the winter acquiring a reddish tinge, in every other respect resembling the preceding. Dill.

sinuated LI'CHEN *sinua'tus*. Tiled. Leaves roundish, indented, scolloped, browniſh green. Saucers of the same colour. Huds.

Dill. 19. 33.

Much compressed and crowded in its growth. *Leaves* short, broadish, flat, spreading, thin, pellucid, somewhat gelatinous, cut into segments, finely scolloped at the ends; outer leaves the largest. *Saucers* small, fine sea-green like the leaves, more conspicuous in the dry plant because changing to brown. Dill.

Rocks, stony and shady places. Near Wigmore, Herefordshire, and Ashburton, Devonshire. [On the rock at Dumbarton Castle, Scotland. Dr. J. E. Smith.—On a stone wall at Chagford, Devonshire, between the town and parsonage, but without shields. Mr. Newberry] A. Sept.—July.

scaly LI'CHEN *squama'tus*. Tiled. Leaves minute, thickish, rounded, indented and angular, green, with a tinge of sea-green. Saucers convex-flat, rough, black, with an imperfect border. Dicks. ii. 20.

Dill. 30. 135.

Leaves small, thick, leathery, with shallow segments, whitish underneath. Dill.

On the ground in turfy places, Scotland.

Fixed firmly to some species of Bryum. Dill.

starry LI'CHEN *stella'ris*. Tiled. Leaves oblong; ash-coloured, jagged, narrow. Saucers blackish brown.—

Hoffm. enum. 13. 2.—*Dill.* 24. 70.—*Fl. dan.* 957. 1.—*Hedw. theor.* 31. 181, *the seeds.*

Of

Of a greeniſh hue when moiſt, when dry aſh-coloured. HUDS.—*Saucers* when young white or grey, being covered with a thin mealy pellicle, but as they enlarge and grow older the pellicle diſappears, becoming black, with a border of the ſame colour as the leaves. Specimens ſometimes found with only tubercles and no ſaucers. LIGHTF.—Aſh-coloured when freſh, whiter when dry. *Leaves* with narrow, oblong ſegments, diverging from a center, ſmooth. *Saucers* on the central part, black, with a grey border; ſometimes intermixed with mealy tubercles. DILL.

Trunks of trees, walls, and ſtones.—More frequent on the ſmaller branches than on the trunks of trees. DILL.

β LIGHTF. and HUDS. 534.

Fl. dan. 957. 2.—*Hoffm. enum.* 13. 1.—*Mich.* 43. 2.—*Dill.* 24. 71.

In circles of 4 inches or more in diameter. *Leaves* when freſh rue-coloured, after being kept ſome years turning to ruſſet-grey; ſegments ſtiffer, and not ſo cloſely united as their extremities. *Saucers* larger. LIGHTF. 824.—Deep glaucous green when wet, grey when dry, even whilſt growing. *Leaves* ſtiff, ſegments blunt. Roots black fibres. *Saucers* numerous in the center, of different ſizes intermixed, glaucous when young, black when old; border the colour of the leaves. DILL.

Oak, beech, elm, and other rough trees. DILL.

γ HUDS.—*Saucers* with curled brims. R. *ſyn. p.* 75. *n.* 75.—The ſaucers of variety β when becoming old, have their outſides and brims covered with minute leaves, ſo as to appear curled. LIGHTF. p. 825.

D. LEAFY. *Leaves not fixed to the ſubſtance on which they grow.*

LI'CHEN *ampulla'ceus*. Leafy; rather flat; lobed; ſcolloped. Saucers globular; inflated.— *bladder*

Dill. 24. 82, *cop. in Jacq. coll.* 1. 4. 3. c. *and Hoffm. enum. lich.* 13. 2.

Segments, broad, ſhort, finely ſcolloped, ſmooth on both ſides, browniſh or purpliſh black. *Saucers* at the baſe or at the edge of the leaves, very large, not hairy, like an inflated bladder, perforated at the top, wrinkled, greyiſh, within dark purple. DILL.

Mountainous paſtures. On Emmot Paſture near Coln, Lancaſhire. RICHARDSON, who ſent a ſpecimen of it to Dillenius. See p. 188. ST.—A figure only is to be found in the Dillenian herbarium. Mr. WOODWARD. P. Sept.—Nov. HUDS.

LI'CHEN *Burgeſ'ſii*. Leafy, ſomewhat tiled, curled. Saucers elevated, between hedge-hogged and curled, with *Burgeſſes's*

the bottom flat and depreſſed. LINN.—Nearly upright, pellucid, curled. Saucers flat, ſhining, borders, curled. BURGESS *in Linn.*

Lightf. 26. 1, *at p.* 826, *cop. in Hoffm. enum.* 21. 1.

Leaves thin, membranaceous, dull green, lobed, and toothed, when dry browniſh purple, opaque, a little hoary underneath. Saucers dull green, on very ſhort fruit-ſtalks, with leafy curled borders; when dry a little ſunk or concave, and dark reddiſh brown. LIGHTF.

Trunks of haſel and birch in Dumfrieſſhire. Diſcovered by the Rev. Dr. Burgeſs, of Kirkmichael, Dumfrieſſhire. P. Jan.—Dec.

channelled LI'CHEN *calica'ris.* Leafy; upright; ſtrap-ſhaped; branched; pitted; convex; with ſharp points at the ends.—

Dill. 23. 62.—*Col. ecphr.* i. 334. 2, *abr. in H. ox.* xv. 7. *row the laſt*, 5; *and ill cop. in Park.* 1312. 4.—*Fl. dan.* 959. 1, *the beſt repreſentation of a narrow-leaved plant.*—*Walc. No.* 9.—*Vaill.* 20. 6.

Dillenius does not think this ſpecifically different from the *L. farinaceus*, and Mr. Relhan is of the ſame opinion.—From 1 to 3 inches high, or more, variouſly branched. *Leaves* (or rather *ſtems*) convex on one ſide, hollow on the other, with ſhallow oblong pits on each ſide, ſmooth, rather ſhining and ſtiffiſh. *Saucers* ſmall, lateral and terminating, concave, becoming flat, the ſame colour as the plant, viz. pale greeniſh grey. The tops of the branches end in hooked points, either upright or *horizontal*, which is peculiar to this ſpecies and readily diſtinguiſhes it. DILL.

Rocks, and on the bark of trees. P. Jan.—Dec.

roſe LI'CHEN *capera'tus.* Pale green; wrinkled and waved at the edge. LINN.—Leafy, creeping, lobed, yellowiſh ſea-green. Saucers browniſh red. HUDS.

Dill. 25. 97.—*Hoffm. enum.* 19. 2, *and* 20. 2.—*Mich.* 48. 1.—*H. ox.* xv. 7, *row* 4. 1.

Not very leafy, ſea-green-yellow. *Saucers* ſeldom found. LINN. —Circular in its growth, from 1 inch to 1 foot in diameter, the ſmall ones like a roſe, the larger ones leſs regular. *Leaves* oblong, cut, terminating ſegments broadeſt, yellow glaucous green; ſurface not pitted, but marked with oblong or oblique unequal wrinkles, as well on the leaves as on the central cruſt. *Saucers* on the larger plants, either pale fleſh-colour, or the ſame colour as the leaves. The whole plant ſometimes mealy and bearing mealy warts. DILL.

On

On ſtones, rocks, trunks of trees, [and pales. Mr. WOODWARD.]
P. Jan.—Dec.

The people in the North of Ireland and Iſle of Man, dye wool with it of an orange colour. Serge dyed with it became of a lemon-colour, but if previouſly infuſed and boiled in urine, of a ruſſet brown. It is probably what the people in the North of Ireland call *Stone-crottles*, and which there and in the Iſle of Man, is uſed to dye wool of an orange-colour. It is alſo called *Arcell* from the reſemblance it has to the *Orchal* in its uſe in dying. RUTTY.

LI'CHEN *cilia'ris*. Leafy, ſomewhat upright; *fringed* ſegments ſtrap-ſhaped, fringed. Saucers on fruit-ſtalks; ſcolloped.—

Hoffm. lich. 3. 4.—*Fl. dan.* 711.—*Vaill.* 20. 4.—*Tourn.* 325. 2. *C.* —*Walc.* 9.—*Dill.* 20. 45.—*Hedw. theor.* 30. 175, 176; 31. 177, 178, 179, 180.—*H. ox.* xv. 7. *row* 4. 6. *fig. next but one to the margin.*—*Col. ecphr.* 1. 334. 3, *the uppermoſt fig.*—*Happ.* i. *Lichen* i.

Foliage ſtrap-ſhaped, narrow, 1 or 2 inches long, variouſly cut into pointed ſegments, fringed with blackiſh or ſelf-coloured hairs, ſo as to give a rough almoſt prickly appearance to the plant. When wet good green above, ſea-green underneath, but whitiſh when dry, ſmooth. *Warts* of the ſame, or a darker colour, numerous, often crowded. *Saucers* on the upper branches and on the ſtem, on ſhort pedicles; dark brown to black; border the colour of the leaves. HOFFMAN.

β (HUDS.) Ends of the leaves tubular. HOFFM.

On moſt trees. P. Jan.—Dec.

Hoffm. lich. 3. 2 *and* 3.—*Dill.* 20. 46.—*Vaill.* 20. 5.—*Mich.* 50. *ord.* 27 *and* 28.

Variouſly ſhaped, forming at firſt a ſmall flat circle, ſegments ſlender, ſub-divided at the ends, grey white, greeniſh when wet, more grey underneath. Surface ſprinkled with minute black dots, edges hairy. Other parts of the leaves ſwelling at the end pour forth a greeniſh powder, the diſcharge of which leaves an open cavity in the ſubſtance. Saucers on ſhort foot-ſtalks, rare, found on the plants with leaves hollow at the ends. They are circular, brown or blackiſh, ſurrounded with a border the colour of the plant. This ſpecies connects the *leafy* and *tiled* Lichens with the *leafy* and *upright*. Common on ſtones and trees; chiefly the Willow and Blackthorn. HOFFM.

On moſt trees and ſometimes on ſtones,

ſhell LI'CHEN *cochlea'tus.* Leafy, membranaceous, lobed, plaited, dark green. Saucers reddiſh brown. DICKS. 13.

Dickſ. 2. 9.

Leaves concave, the edge bluntly lobed, plaited when dry, between aſh and lead-coloured, when moiſt dark green. Differs from *L. Veſpertilio* in the edges of the leaves being elevated and concave, in being of an aſh-lead-colour when dry, the ſaucers being larger and not crowded. DICKS.

Woods at the roots of trees, Devonſhire. Mr. SLATER.—Yorkſhire. Mr. CURTIS.

white-horned LI'CHEN *cornicula'tus.* Leafy, nearly upright, moſtly pitted, ſmooth; ſegments narrow, horned. RELH. *n.* 875.

Dill. 21. 54.—*Vaill.* 20. 7.

Leaves white. *Warts* mealy. *Saucers* large, on foot-ſtalks, white without, brown within; on the edges of the leaves. RELH.—*Leaves* tender, divided and ſub-divided into narrow, oblong, horned ſegments, ſmooth but not ſhining, upper ſurface convex, under ſide hollow. DILL.

L. prunaſtri. (β Hudſ.)

On dry half decayed branches of Heath, on a moor 2 miles from Lippock, Hampſhire. DILL.—Trunks of trees and on pales. [Grows common with the L. prunaſtri on trunks of trees. Staley-bridge, near Mancheſter. Mr. BRADBURY.] P. Jan.—Dec.

reddiſh LI'CHEN *croca'tus.* Leafy, the edge yellow, powdery, LINN.—pitted, yelloviſh, browniſh red, with yellow grains; ſegments indented, rounded. Saucers ſomewhat concave, browniſh black, with a border from the leaf. DICKS. ii. 22.

Dill. 84. 12.

Leaf ſomewhat leathery, flat, ſomewhat wrinkled, divided into large ſegments, of different ſhades of yellow green, olive and reddiſh, within always bright yellow, of the ſame colour underneath, but covered with a blackiſh wool, with yellow dots interſperſed. *Yellow balls* diſpoſed along the edge and often over the whole ſurface in a chain-like or net-like manner. *Saucers* few, the border thick, formed by a ſwelling of the leaf. DICKS.

Rocks in the Highlands.

LI'CHEN

LI'CHEN *fal'lax*. Leafy, jagged, thin, ſea-green above, white underneath, with black ſpots interſperſed. Saucers terminating. WEBER 244. *fallopian*

Dill. 22. 58.—*Mich.* 37.

Differs from *L. glaucus* for which it may be eaſily miſtaken, as follows. *Segments* diffuſe, not depreſſed, white underneath, never black or brown. *Saucers* terminating, not generally ſcattered over the ſurface of the leaves. DICKS. 13.—*Leaves* ſeveral from the ſame center, a finger's length, cut into a few ſegments, elegantly fringed and finely cut at the edge, fringe criſp, granulated; ſurface ſmooth, ſubſtance blackiſh. *Saucers* large, terminating, concave, wrinkled, reddiſh within. DILL.

Rocks in Devonſhire.

LI'CHEN *farina'ceus*. Leafy; upright; compreſſed; branched; with mealy warts on the edge.— *mealy*

Vaill. 20. 13, 14, 15.—*Dill.* 23. 63, *A*, *B*, *C*.—*Walc. No.* 9.

Short and hair-like when young (A); broader when older (B); 1 to 3 inches high, compreſſed, ſegments ſometimes fewer and broader (C), irregular, grey glaucous green, ſmooth, rigid. *Warts* on the edge of the branches, mealy, as is the whole plant, flat, or riſing, reſembling ſaucers. DILL.

Trunks and branches of trees: whiteſt on the ſloe. DILL.

P. Jan.—Dec.

β HUDS. 540.—Leaves broader. Mealy warts ſmaller, more frequent, ſo that the edges become curled. DILL. 173.

Dill. 23. 63. *D.*

γ HUDS.—Leaves broader, ſtiffer. Warts larger, leſs frequent. DILL. 173.

Dill. 23. 63. *E.*

See L. calicaris.

LI'CHEN *faſcicula'ris*. Leafy; of a jelly-like ſubſtance. Tubercles turban-ſhaped; in cluſters; larger than the leaves. LINN.—Tiled. Leafits hand-ſhaped, nearly upright. HUDS. 536. *cluſter*

Fl. dan. 462. 2.—*Dill.* 19. 27.

Root-leaves minute, and as the whole of the plant of a gloſſy jelly-like appearance, reſembling a Tremella. *Tubercles* large in proportion to the leaf, numerous, moſtly on fruitſt. lopped at the end, ſurrounded with a blunt border. LINN.—Obſervable in October and November, forming roundiſh raiſed ſubſtances, with numerous tubercles riſing from fleſhy leaves interlaced and connected. *Leaves*

examined

examined ſeparately, pellucid, dirty green, not $\frac{1}{4}$ inch long. *Tubercles* at firſt ſmall, convex, the colour of the leaves; when larger, flat, or a little hollowed. DILL.

Woods and garden walks. DILL.—Trunks of trees and ſtones. HUDS.—Shady places on the North ſide of trees, particularly aſh. Dr. BURGESS *in ſt. ſcot.* 841.—Heaths. RELH. *n.* 1029.

P. Jan.—Dec.

aſh LI'CHEN *fraxin'eus*. Leafy; ſtraight; oblong; ſpear-ſhaped; ſomewhat jagged; pitted; ſmooth. Saucers on ſhort fruit-ſtalks.—

Dill. 22. 59.—*Hoffm. lich.* 18. 1. 2.—*Tourn.* 325. *A, B.*—*Happ.* iii. *Lichen* 6.—*Walc. No.* 9.—*H. ox.* xv. 7. *row the laſt*, 3 *and* 4; *row* 3. 14.—*Mich.* 36. 1, *conſidered by Weis as a variety.*—*(H. ox. ib. row the laſt*, 5, *is L. calicaris; and ib. t.* 7. *f.* 9 *and f.* 19, *in Haller, and cop. into Fl. ang. muſt be an error of the preſs or tranſcribers.)*

From 1 to 6 inches high, varying in ſhape, wrinkled or meſhed, with hollows on each ſide. Leaves of the younger plants, leſs wrinkled, ſhorter, ſpear-ſhaped. *Branches* but few, riſing from one common ſtem, divided into ſeveral ſegments, terminating in pointed horns. Flexible when moiſt, more rigid and paler when dry. Colour on both ſides glaucous, or pale aſh, yellowiſh with age. *Saucers* very common, on every part of the plant, circular, concave, obtaining a pedicle from the ſubſtance of the leaf, pale brown or fleſh colour within. HOFFMAN.—*Saucers* moſtly of a pale ſtraw-colour, but ſometimes of the ſame colour with the leaf. *Leaf* greeniſh aſh-colour, ſtiff.

Trunks of trees, on poplar, apple, &c, but chiefly on oak and aſh.

P. Jan.—Dec.

ſhort-horned LI'CHEN *fucoi'des*. Leafy, very much branched, porous, whitiſh hoary. Branches bundled, cylindrical. Little branches riſing to the ſame height, awl-ſhaped, bluntiſh. Tubercles lateral, flattiſh, mealy. DICKS. ii. 22. *Dill.* 22. 60.

Has much affinity with *L. fuciformis*, in its tough leatherlike texture, but it is diſtinguiſhable by many marks. Dillenius's figure was taken from imperfect ſpecimens. DICKS.—Narrow at the baſe, branching, branches the breadth of a ſtraw, 1 to 2 inches long, greyiſh. *Tubercles* ſmall, flat, mealy, on the edges and ſometimes on the ſurface of the leaves, whiter than the reſt of the plant. DILL.

Rocks in the Iſland of Jerſey. DILL.—On rocks and wood on the ſea ſhore near Goſport. DICKS.

LI'CHEN

LI'CHEN *furfura'ceus*. Leafy, drooping, as if ſprinkled with bran; ſegments ſharp, black and pitted underneath.— *branny*

Hoffm. lich. 9. 2.—*Buxb.* ii. 7. 1 *and* 2.—*Dill.* 21. 52.—*Mich.* 38. *ord.* 4. 1.—*Hedw. theor.* 31. 182, *the ſeeds.*—*Barr.* 1277. 3.

Saucers, the edges frequently bent back, making them appear convex. Mr. WOODW.—I never found a plant with ſaucers. WEIS *p.* 66. LEYSER *n.* 1147. Mr. NEWBERRY.—Plant expanding from a narrow baſe, more or leſs crowded and aſcending: branches bent back, ſegments numerous, terminating in browniſh-pointed horns. *Surface* greyiſh, rough with a powdery ſubſtance, often greeniſh; wrinkled and blackiſh underneath. *Saucers* rarely ſeen, large, nearly hemiſpherical, brown red within, placed on the ſurface of the larger branches. HOFFMAN.—*Leaves* often as if thorny at the edges, not rigid. DILL.

Trunks and branches of trees, and old pales. [Plentifully on Wild Tor-Rock, a large rock five miles from Chagford, Devonſhire, and alſo on many of the ſmaller rocks of granite there about. Mr. NEWBERRY.] P. Jan.—Dec.

LI'CHEN *glau'cus*. Leafy, depreſſed, lobed, ſmooth; edge curled, mealy.— *ſhining*

Dill. 25. 96.—*Fl. dan.* 598.—*Hoffm. enum.* 20. 1.—*H. ox.* xv. 7. *row* 4. 4.—*(Vaill.* 21. 12, *and Mich.* 50. *ord.* 24. 1, *are L. perlatus.)*

Leaves thinner than paper, of a mixture of white, aſh-colour, and ſea-green. LINN.—*Leaves* cut and curled like thoſe of Endive, ſmooth and ſhining on both ſides, pale ſea-green, brown underneath, ſubſtance black. Edges of the ſegments of the leaves mealy. *Saucers* ſmall, brown. DILL.

On the ground amongſt ſtones and rocks, and on heaths. On Emmot-moor near Coln, Lancaſhire; and on Banſtead Downs; near Moffat, and in Breadalbane. P. Jan.—Dec.

LI'CHEN *herba'ceus*. HUDS. 544.—Leathery, creeping, lobed, blunt, ſmooth, lovely green, without veins underneath. Saucers tawny. LIGHTF. 852.—Leafy, lobed, ſcolloped, herbaceous. Saucers browniſh red. HUDS. *green*

Hoffm. lich. 10. 2.—*Dill.* 25. 98.—*H. ox.* xv. 7. *row* 4. 3.

Large as one's hand, leaves tiled, roundiſh, variouſly cut, broad, blunt, ſcolloped. *Subſtance* flexible, ſoft and herbaceous when moiſt, but rather tough. *Surface* even, of a pleaſant green, deeper coloured when dry, and changing to grey, glaucous, or brown. Underneath wrinkled, brown, whitiſh towards the margin, fibrous. *Saucers* numerous,

numerous, large, moſtly towards the central parts of the plant, red brown. On ſtones as well as on trunks and roots of trees. HOFFM. —*Leaves* 2 to 3 inches long, crowded, variouſly cut and ſcolloped, ſegments blunt, ſhort, thin, ſoft, ſmooth and even. *Saucers* numerous, ſmall and large intermixed, red or yellow brown, with a greeniſh border; when full grown 1-3d of an inch diameter. DILL.

L. læte-virens. Lightf. n. 62.

On aſh trees in Ireland, on ſtones at Comb Floyd near Biſhop's Caſtle, and on oaks between Carno and Mayne Loin in Merionethſhire. What ſeems to be a variety of it near Wakehurſt, Suſſex. DILL.—Near Ivy bridge, Devonſhire, and in Yorkſhire and Cumberland, HUDS.—and Scotl. not uncommon. LIGHTF.—[On trees between Kendal and Bowneſs, and in many other parts of Weſtmoreland. Dr. J. E. SMITH.—On aſh, ſycamore, and oak in the North Weſt part of Devonſhire. Mr. NEWBERRY.] P. Jan.—Dec.

eryngo-leav'd LI'CHEN *iſlan'dicus.* Leafy, aſcending, jagged; borders raiſed, fringed.—

Dill. 28. 111.—*Hoffm. lich.* 9. 1.—*Fl. dan.* 155.—*Blackw.* 599. —*Giſeke* 50.—*Mich.* 44. 4.—*Buxb.* ii. 6. 1.—*(Fl. dan.* 597, *are L. polyrrhizus and puſtulatus.)*

Saucers circular, very entire, placed on the leaf. LINN. *ſuec. u.* 1085.—Crowded, connected, aſcending, varying greatly in ſhape and ſize. *Leaves* often ſeveral inches high, cut and divided, ſegments remote, extremities ending in two ſhort, blunt horns. *Surface* ſmooth, ſhining, channelled, wrinkled, brown or pale green; edges turned in, fringed with ſtiff briſtles. *Subſtance* membranaceous, ſoft, not eaſily torn; horny and ſtiff when dry. *Saucers* on the ends of the broader lobes, but ſeldom at the extremity of the plant or at the edges; very large, fringed, purpliſh brown. *Fringe* ſometimes wanting. HOFFMAN.

On the top of Snowdon and Glogwyn y Garned in North Wales, and only in ſmall quantities. DILL.—On many mountains in the Lowlands and Highlands, on the Pentland Hills, on Scrape near New Poſſo, on Creg-chaillech in Breadalbane.

The Icelanders boil it in broth, or dry it and make it into bread. They likewiſe make gruel of it to mix with milk; but the firſt decoction is always thrown away, for it is apt to purge. It has lately got a reputation for curing conſumptive complaints.

β LINN.—Leaves narrower, the edges rolled in, the ends not fringed. DILL. 212.

Dill. 28. 112.—*Buxb.* ii. 6. 2; 5. 3 *and* 4.

Pale green, whitiſh underneath. Segments ſlender, curled. This is the plant in its young ſtate when growing under Heath or other ſhrubs. HOFFMAN. γ HUDS.

γ Huds.—Shrubby, ſolid, very much branched. Branches ſtraddling, ſomewhat compreſſed, ſmooth, with little thorns, angles blunt. Lightf. 883.

Hoffm. lich. 5. 2.—*Dill.* 17. 31.—*Mich.* 39. 7.—*Vaill.* 26. 8. —*H. ox.* xv. 7. *row* 3. 11.

Little branches ſcarcely prickly, the ends forked, pointed. Huds.—Tufted, ſhrubby, much branched, 1 or 1½ inch high. *Branches* interwoven, compreſſed pitted on each ſide, dividing and ſubdividing in forks, ending in fine thorns; dark brown when wet, almoſt black when dry, white within. Saucer-like tubercles terminating the larger branches, red brown, thorny at the edge, horizontal. Not often found with ſaucers. Hoffman.

L. hiſpidus. Lightf. 883, *and* 830. Relh. 1030.

On Stieperſtone, Shropſhire.—Heaths about London, and hilly parts of Cambridgeſhire. Dill.—[On rocks in Dartmoor, Devonſhire. Mr. Newberry.]

δ Huds. 839. — Little branches round, hollow within, not fringed. Linn.

Dill. 17. 32.—*Fl. dan.* 879?

Extremely different, but its lurid hue, the redneſs at the baſe, and a gradation of ſpecimens prove them to be one and the ſame plant. Linn.—This elegant plant is not more than ½ inch high, ſpreading, without any proper ſtem; branches very ſlender, interwoven like lace; diviſions forked. Dill.

γ *L. iſlandicus.* Linn.—See Lightf.

L. pubeſcens, according to Lightf. 893.

On Snowdon. Dill.—Glyder Vawr near Snowdon. Penn.

LI'CHEN *juniperi'nus.* Leafy; jagged; curled; *juniper* tawny. Saucers livid coloured.—

Hoffm. lich. 7. 2.—*enum.* 22. 1.

Tawny, neatly jagged. Linn. *lapp.* 344. — Differs from *L. parietinus*, as follows. *Colour* pale yellow. *Leaves* looſe, nearly upright. *Saucers*, the diſk brown. Linn.—Forming a looſely tiled tuft, diviſions rather upright; ſegments variouſly unequal, border curled, rough with minute black dots. Surface wrinkled, green yellow when moiſt, tawny when dry. Pitted, ſmooth and dull yellow underneath. Roots, ſmall ſcattered black fibres. *Saucers* at the edge; cheſnut colour. Hoffman. — Doubtful whether this ſpecies has been found here, for ſome ſuppoſe Mr. Hudſon's *L. juniperinus* to be only a variety of the *L. parietinus*.

Trunks and branches of trees. P. Jan.—Dec.

The country people in Sweden eſteem it a ſpecific for the Jaundice, and uſe it to dye their woollens yellow.

LI'CHEN

jagged LI'CHEN *lacinia'tus.* Leafy, creeping, between indented and lobed; ſmooth. Lobes indented. Saucers tawny. HUDS. *ed.* i. *and* ii. 544.

Mich. 46.—*Dill.* 26. 99.

Perfectly diſtinct from *L. herbaceus.* Dr. J. E. SMITH.—Lightfoot's deſcription very good, but the young *ſaucers* have more the appearance at firſt of warts than tubercles, being merely riſings in the ſubſtance of the leaves, with a ſmall perforated point in the center. As theſe ſwell the edges recede and the diſk is diſcovered. I have always ſeen the *ſhields* and *balls* on the ſame plant, and if it be true that theſe and the ſhields are diſtinct parts of fructification, the glomerula muſt be male and not female, as Micheli, and after him Scopoli have ſuppoſed; as Hedwig has clearly proved the ſeed-veſſels and ſeeds to be ſituate in the ſhields of ſuch ſpecies as he has examined, from whence analogy will certainly point them out to be ſo in all. Mr. WOODWARD.—Spreading in a circular form to a large ſize, greyiſh blue, ſmooth and even, rough underneath and dirty white or brown, with numerous fibres. *Leaves* ſolid, tough, rather leathery, variouſly and elegantly cut. *Saucers* the ſize of a lentil, reddiſh, ſurrounded with a blue grey granulated border. DILL.

L. glomuliferus. Lightf. 853.

On the road between Carno and Main Lloyne. DILL.—[On trees on the great Iſland in Winandermere, and in the woods at Corby Caſtle, Cumberland. Dr. J. E. SMITH.—On aſh, ſycamore, and oak, in the North Weſt of Devonſhire. Mr. NEWBERRY.]

P. Jan.—Dec.

membranaceous LI'CHEN *membranaceus.* Leafy, depreſſed, between plaited and wrinkled, mealy, whitiſh brimſtone-coloured. Saucers ſomewhat concave, of the ſame colour. DICKS. ii. 21.

Dickſ. 6. 1.

Leaf membranaceous, very thin, widely ſpread out, growing cloſely to the ground, whitiſh, covered with a thin yellowiſh mealineſs, black underneath. *Saucers* few, minute. DICKS.

On rocks thinly covered with ſoil in the Highlands of Scotland.

blackiſh LI'CHEN *nigreſ'cens.* Leafy, jelly-like, roundiſh, lobed, wrinkled, blackiſh green. Saucers crowded, tawney red.—

Dill. 19. 20.—*Buxb.* i. 61. 3.—*(Fl. dan.* 470. 3, *is L. lacer of Retz.)*

Leaves jelly-like, expanded in a circle, reſembling a bat's wing; ſometimes deſtitute of ſaucers, and covered with numerous ſmall tubercles,

tubercles: lobes very blunt. *Saucers* near the centre of the leaves. LIGHTF.—*Leaves* broad, flat, between ſcolloped and lobed, in ſubſtance as well as colour much reſembling a bat's wing, ſometimes covered in the place of ſaucers, with granulations of the ſame colour as the leaf. *Saucers* very numerous, minute, at firſt appearing like tubercles of the ſame colour with the leaves, with a ſlight hollow at the top; afterwards expanding, and at length flat; border of the ſame colour with the leaf. The progreſs from tubercles to ſaucers ſhews that there exiſts no abſolute diſtinction between theſe. Mr. WOODWARD.

L. Veſpertilio. Lightf. 840.

Trunks of trees, rocks, ſtones and walls. [In two or three places near Bungay, on old willows and elms, never with ſaucers, always with great plenty of the granulations. Mr. WOODW.—About the bodies of old oak, aſh, and ſycamore trees near Holſworthy, Devonſh. abundantly with innumerable ſhields. Mr. NEWBERRY.]

A. Oct.—June.

LI'CHEN *prunaſ'tri.* Leafy; rather upright; pitted; white and downy underneath.— *blackthorn*

Dill. 21. 55.—*Vaill.* 20. 11, 12.—*Ger. em.* 1377. 1.—*Mich.* 36. 3, *ill done, if the plant.*

From 1 to 3 inches long, ſometimes mealy, ſometime not; leaves and ſegments broad, flat, like ſtags horns, pale bluiſh grey, hoary or woolly underneath, by which and by its ſoftneſs it is readily diſtinguiſhable from every other ſpecies. *Saucers* on plants which are ſhorter and leſs branched, fixed to the ends of the branches, rather paler and whiter than the leaves, browniſh with age. DILL.

Trunks and branches of trees, on old willows it is ſofteſt, on blackthorn whiteſt. DILL. P. Jan.—Dec.

It has a remarkable property of imbibing and retaining odours, and is therefore the baſis of many perfumed powders.—

LI'CHEN *pulmona'rius.* Leafy; jagged; blunt; ſmooth; pitted above, downy underneath.— *Lungwort*

Hoffm. lich. 1. 2.—*Garſ.* 340.—*Dill.* 29. 113.—*Mich.* 45. *ord.* 14.—*Matth.* 1039, *imit. in Lob. obſ.* 647. 2, *which repr. in ic.* ii. 248. 1, *Dod.* 474. 1, *Ger. em.* 1565. 1, *and cop. in Park.* 1315. 1; *and imit. in Ger.* 1375. 1, *which repr. in Matth. a C. B.* 733. II.—*Fuchſ.* 637, *imit. in Trag.* 524, *and alſo in Lon.* i. 219. 3. —*H. ox.* xv. 7. *row* 4. 1. *p.* 634.—*Blackw.* 335.—*Nech. meth.* 1. 7, *a target.*

Targets grow upon the leaves. LINN. *fl. ſuec.*—Flat, broad, looſe, irregularly lobed; lobes indented, about an inch broad, ſeveral inches

inches long, cloven at the end, and lopped. Subſtance flexible, white and woolly within. Surface fine green, bluiſh when dried, browniſh with age, ſpread over with an elevated net-work, with hollows in the interſtices. *Warts* mealy, crowded, on the edges of the leaf or on the riſing edges of the net-work. *Saucers* in the hollows, or at the edges of the leaves, facing horizontally, circular, 2-10ths of an inch diameter, often 2 or 3 together, brown red, or dark purpliſh. The plants with ſaucers are not very common, but are chiefly to be found on the higher branches of trees, in which ſituation alſo other Lichens, ſeldom yet found with ſaucers, muſt be looked for, as the *caperatus*, *glaucus*, *ſaxatilis*, &c. HOFFMAN.

Lungwort.—*Hazel Rag*, or *Hazel Crottles*, North of Ireland.—*Rags*, Herefordſhire.

On the trunks of old trees, principally oaks, in ſhady woods.—On heaps of ſtones in moiſt ſhady places. RAY *in Dill.* P. Jan.—Dec.

It is reckoned very efficacious in conſumptive caſes; this opinion merits a further inveſtigation.—Woollen cloth boiled with it became of a durable orange. RUTTY.—The people of Hertfordſhire dye their ſtockings with it of a durable brown. DILL.

ſaturnine LI'CHEN *ſaturni'nus*. Leafy, with rounded lobes, blackiſh above, woolly and aſh-coloured underneath. Saucers reddiſh-brown, bordered. DICKS. ii. 21.

Dickſ. 6. 8.

Leaf depreſſed, ſomewhat plaited, ſlightly wrinkled above, of a bluiſh or browniſh blackiſh hue, very woolly underneath. *Saucers* ſcattered, reddiſh or brown; border of the ſame colour. DICKS.

Trunks of trees, Scotland.

warty LI'CHEN *ſcrobicula'tus*. SCOP.—Leafy, creeping, roundiſh, ſomewhat lobed, ſcolloped, wrinkled, warty. Warts mealy. Saucers very minute, tawny. HUDS.

Hoffm. pl. lich. 1. 1.—*Dill.* 29. 114.—*Mich.* 49. *ord.* 21.—*(H. ox.* xv. 7. *row* 4. 1, *is L. caperatus.)*

Leaf ſometimes pierced with holes as if eaten through, being places where former warts have grown; border indented, curled; dirty brown underneath, light brown towards the edges. ST.—Leafy, broad, flat, variouſly lobed. *Lobes* indented; ſegments rounded, blunt, ſometimes ſcolloped. Subſtance not very thick, flexible. Upper ſide ſea-green, greyiſh in the hollows, grey or whitiſh when dry, yellowiſh when old; every part pitted or hollowed. *Warts* mealy, on the borders of the pits, the edge of the leaf or the end of the lobes, ſolitary, ſcattered or crowded, the ſize of a pin's head, browniſh with age, often perforated. *Saucers* rarely to be found,

ſeated in the hollows, concave, border entire, browniſh, center yellowiſh or reddiſh brown. HOFFM.—*Saucers* hemiſpherical, hollow, yellowiſh, tawny at the bottom. HUDS.—Segments broad, blunt, moderately thick, rather ſtiff, with circular hollows, blue grey. *Saucers* mealy, granulated, partly on the leaves, partly on their edges. DILL.

Lichen verrucoſus. Hudſ.

Trunks and roots of trees, on large ſtones, and at the foot of rocks. Among the pebbles at Cockbuſh on the coaſt of Suſſex. RAND.—On large ſtones near Dolgelle, Merionethſhire. DILL.—On rocks juſt above Great Malvern, Worceſterſhire. ST.—[Near Keſwick, Cumberland. Dr. J. E. SMITH.—On aſh, ſycamore, and oak in the N. W. of Devonſhire. Frequently growing on the ſame trunk with *L. herbaceus*, *laciniatus*, and *nigreſcens*. Mr. NEWBERRY.]

P. Jan.—Dec.

LI'CHEN *tenuiſ'ſimus*. Tiled; of a browniſh greeniſh hue. Leaves fingered, with many clefts. Saucers immerſed, browniſh-red, with blunt borders. DICKS. 12. *Dickſ.* 2. 8. *thin*

Minute, and elegant. *Leaves* minute, brown when dry, of a tender membranaceous jelly-like ſubſtance, with many clefts at the ends; ſegments ſtrap-ſhaped, unequal, expanding, ſomewhat fringed. *Saucers* proportionably large, with imperfect borders, the younger hollow, pitcher-ſhaped, on the ſurface of the leaves and of the ſame colour, the older flat, ſometimes convex, of a dirty red. DICKS.

On ſand-banks, near Norwich. [On dry ſand banks uſually amongſt moſs. Norfolk, not unfrequent. Mr. WOODWARD.]

LI'CHEN *trapezifor'mis*. ZOEG. *fl. iſl.* 15.—Leaf minute, with rounded angles, thickiſh, dark green. Tubercles dot-like, under the ſurface of the leaf; at length elevated and blackiſh. DICKS. ii. 22. *trapezium*

Hedw. ſtirp. ii. 20. *A.*—*Mich.* 54. *ord.* 36. 3, *cop. in Dill.* 30. 133.

On the ground on barren heaths near Croydon.

LI'CHEN *tremelloi'des*. Leafy, membranaceous, curled and finely jagged at the edge. Saucers concave, tawny. HUDS.—Leaves tranſparent, LIGHTF.—*ſomewhat tranſparent when freſh.*— *fringed*

Dill. 19. 31.—*H. ox.* xv. 7. *ord.* 3. 4.—*Mich.* 38. *ord.* 3, *drawn too large, as Micheli obſerves.—Linnæus refers alſo to Dillenius's*

figures of the varieties below.—(Dill. 19. 33, *is L. ſinuatus of Hudſ. —Vaill.* 21. 15, *is L. palmatus of Hudſ.)*

So brittle that it can ſcarcely be ſeparated from the plants to which it adheres. LINN. *ſuec. n.* 1138.—When dry becoming of a ſlate colour. *Saucers* very minute; numerous, reddiſh. LIGHTF. —*Saucers* of the ſize of turnip-ſeeeds, circular; border ſea-green, nearly entire; the diſc flat, tawny. HUDS.—Adhering to Moſs and fine graſs on heaths. *Leaves* ½ to 1 inch, flattiſh, variouſly cut into ſegments, fringed and curled at the edges; thin, pellucid, glaucous brown green. DILL.

Tremella Lichenoides. LINN.

Shady places on ſtones and trunks of trees, intermixed with Moſſes. [On moiſt ſhady banks and thatched houſes frequent, but ſeldom with ſaucers. Mr. NEWBERRY.] P. Jan.—Dec.

β LIGHTF.—*Dill.* 19. 32.

More blue than the preceding, leſs jagged, but the diviſions deeper, bearing ſmall tubercles of a fleſh or reddiſh brown colour. DILL.

γ LIGHTF.—*Dill.* 19. 34.

Saucers extremely numerous, ſitting, on the ſides of the leaves, ſcarcely diſtinguiſhable by the naked eye, reddiſh; borders regular, of the ſame colour with the leaf. Mr. WOODWARD.—Grows denſely crowded, but rather upright; the outer leaves leſs ſo, thin at the ends, larger than the central ones, deep green with a purpliſh caſt; ſegments broadiſh, thin, flat, rather gelatinous, the ends very finely ſcolloped. DILL.

Footſcray Wood, Kent. [Sandy banks, but not commonly found with ſaucers. Mr. WOODWARD.]

♪ LIGHTF.—*Dill.* 19. 35.

In little denſe tufts, upright, rather gelatinous, darker than the preceding, almoſt black. *Leaves* very ſhort, very fine, ſegments capillary. DILL.

Footſcray Wood and Darking. Winter.

E. LEATHER-LIKE. *Subſtance reſembling leather.*

thruſh LI'CHEN *aptho'ſus.* Leathery, creeping; lobes blunt, flat, ſprinkled with warts. Targets on the edge, aſcending.—

Hoffm. lich. 6. 1.—*Dill.* 28. 106.—*Fl. dan.* 767. 1.—*Neck. meth.* 1. 8, *a target.*

Nearly allied to *L. caninus.* HUDS. 547.—Broader, ſhorter, thinner and leſs brittle than the *L. caninus.* Segments large, flattiſh, bluntly notched. Surface ſmooth, fine green when young, grey brown when old. *Warts* numerous, ſcattered, blackiſh. *Tubercles* terminating, fine

fine purple, or red brown, egg-ſhaped, crooked, warty, on ſhort pedicles. Roots very long. HOFFMAN.—Black brown underneath, woolly, not veined, whitening when expoſed to the air: without radical fibres. DILL.

Shady, ſtony, moſſy places, and on rocks. Dartmoor, Devonſhire. Ingleborough, Yorkſhire; elſewhere in Yorkſhire and Weſtmoreland. HUDS.—At the foot of the Pentland Hills, Scotland. Mr. YALDEN *in the Fl. ſcot.* 847. P. Jan.—Dec.

The country people make an infuſion of it in milk, and give it to children that have the Thruſh. In large doſes it operates by purging and vomiting, and deſtroys worms.

LI'CHEN *cani'nus.* Leathery; creeping; flat. *dog's* Lobes blunt, woolly, and veiny underneath. Targets on the edge, aſcending.—

Blackw. 336.—*Dill.* 27. 102.—*H. ox.* XV. 7, *row* 2. 1.—*Fl. dan.* 767. 2.—*Vaill.* 21. 16.

Targets brown, underneath ſmooth and fleſh-coloured. LINN. *ſuec. n.* 1100.—*Leaves* covered with a kind of aſh-coloured mealineſs. Grows on the ground. *Leaves* a ſpan long, 1 or 2 inches broad, widening as they grow out, indented, lobes ſhort, blunt, ſingle or in ſtrata, membranaceous, grey dull dirty green; woolly and veined underneath, roots white fibres. *Targets* terminating, hard, ſolid, oblong, but rounded, tawny, reddiſh brown. DILL.

Aſh-coloured ground Liverwort.

Woods, heaths, ſtony places, and hedges. P. Jan.—Dec.

This is the baſis of the famous powder recommended by Doctor Mead to prevent the effects of the bite of a mad-dog, and recorded in our diſpenſatories under the name of Pulvis Antilyſſus.

β LIGHTF. 846. HUDS.

Dill. 27. 103.—*Mich.* 44. *ord.* 12. 2.

Leaves thicker, ſtiffer, ſmaller, narrower, and deeper cut than the preceding, the edges curled, the colour darker, not veined underneath, or very ſuperficially ſo. DILL.—In the ſame places with α, and more common. DILL. 204.

γ LIGHTF. 846. and HUDS.

Hoffman lich. 4. 1.—*Dill.* 28. 107.

Growing in tufts, divided into lobes 1 or 1½ inch in length, broadeſt at the end, the extreme lobes ending in numerous convoluted red brown finger-ſhaped targets, ſeated on pedicles. Surface ſmooth, dull green, changing to greyiſh or red brown when dry. Underneath veinous, downy, browniſh. HOFFMAN.

About Perfeddgoed Houſe not far from Bangor, Wales. DILL.

δ HUDS.—*Dill.* 28. 108.

Veiny and woolly underneath. DILL. 207.—Shorter, thinner, whiter underneath, more tranſparent and more variegated in its colours than the preceding. HOFFMAN.

On Rumbles Mear, near Helwick, Yorkſhire. DILL.

ſaffron LI'CHEN *cro'ceus.* Leathery, creeping, roundiſh, flat, veined underneath, ſaffron-coloured. Targets ſcattered, grown to.—

Linn. lapp. 11. 3.—*Dill.* 30. 120, *from ſpecimens ſent him by Linnæus.*—*Fl. dan.* 263.

Leaves nearly flat, lying on the ground, roundiſh, narrower towards the baſe, about an inch over, cut at the edge, lobes blunt, ſometimes entire, ſcolloped, 3 or 4 leaves forming a circle, but not regular, colour grey green, deep yellow underneath, which circumſtance alone is ſufficient to diſtinguiſh it. *Targets* flat, brown, few, 1 to 2 lines diameter. LINN. *in* DILL.

On a rock near the top of Benteſkerney, Breadalbane. Mr. STUART *in Fl. ſcot.*—Rocks and ſtony places, and groves on mountains near Money Muſk, Aberdeenſhire. HUDS. P. Jan.—Dec.

ruſt-ſpangled LI'CHEN *fuligino'ſus.* Leafy, creeping, indented-lobed, rough underneath, covered with a ſpongy down and pitted. Saucers flat, ruſt-coloured, edges pale. DICKS. 13.

Dill. 26. 100.

Aſh-coloured ſea-green, tinged of a lurid colour, yellowiſh underneath, with white hollows. DICKS. 13.—*Leaves* ſoft, tender, wrinkled and pitted above, and ſtrewed with a ſooty-like powder; woolly and ſpongy underneath, with here and there a white hollow, but no fibrous roots. *Saucers* few, ſmall, flat, ruſt-coloured, with a thin pale border. DILL.

Growing always upon Moſs, and not directly attached to the ſubſtance on which it appears to grow. At the foot of Mount Cader Ideris, near Dolgelle, in Auguſt. DILL.—[In woods on the branches of trees. DICKS.—On trees near Ambleſide. Dr. J. E. SMITH.]

flat-ſhield LI'CHEN *horizonta'lis.* Leathery; creeping; flat; not veiny underneath. Targets on the edge, horizontal.—

Dill. 28. 104.—*Mich.* 44. *ord.* 12. 1, *and* 6.—*Fl. dan.* 533? *and* 765?

Leaves variouſly divided into lobes, thin, not rigid, dull browniſh green, brown underneath, but white at the edge, fibrous roots blackiſh. *Targets* egg-ſhaped, flat, on the edge of the leaves, yellow red. DILL.

Enfield

Enfield Foreſt. DILL.—Moiſt rocks and ſtones, and at the roots of trees. HUDS. P. Jan.—Dec.

LI'CHEN *perla'tus*. Leafy, creeping; lobed; ſmooth; mealy at the edge, black underneath. Saucers on fruit-ſtalks ſomewhat ſcolloped, brown. HUDS.—Leathery. LINN. *pearl*

Dill. 20. 39.—*Vaill.* 21. 12.—*Mich.* 50. *ord.* 24. 1.—*Barr.* 1278. 3, *a young plant.*

I have examined thouſands of plants without finding one with *ſaucers*. Mr. WOODWARD.—Blue grey, pitted, fringed. *Saucers* large, glaſs-ſhaped, on ſhort pedicles, brown and ſmooth within, border when old, cracked. Very common, particularly about Oxford, on the trunks of oaks, but ſeldom found with ſaucers. DILL.

Trunks of trees and ſtones. [Scarce in Norfolk, but extremely common in Hertfordſhire, particularly on the ſmooth bark of Beech, on which it grows with great regularity and beauty. Mr. WOODW.] P. Jan.—Dec.

LI'CHEN *reſupina'tus*. Leathery, creeping, lobed. Targets on the edge, facing downwards.— *reverſed*

Dill. 28. 105.—*Mich.* 44. *ord.* 13. 2.—*Fl. dan.* 764.

Readily diſtinguiſhable from *L. caninus* from the targets ariſing from the ſide of the leaf next the ground, and their being ſmaller. LINN. *ſuec. n.* 1096.—Subſtance thin. Lobes bluntly ſcolloped, brown lead-colour, grey and whitiſh underneath, neither woolly nor fibrous. *Targets* numerous, varying in ſize, ruſt-coloured, fixed to the lower ſide of the leaf. DILL.

Trunks of trees, rocks, ſtones, on pebbles on the ſea ſhore, and on the ground in ſtony places. P. Jan.—Dec.

LI'CHEN *ſacca'tus*. Leathery, creeping; circular. Targets ſunk below the ſurface of the leaf, forming a kind of bag beneath.— *pitted*

Mich. 52. *ord.* 31.—*Fl. dan.* 532. 3, *left hand fig.*—*Dill.* 30. 121. —*Fl. dan. ib. right hand fig. is a form in which I have never ſeen it.*

Readily diſtinguiſhable from its having in place of a target a ſack hanging down from the lower ſurface. LINN. *ſuec. n.* 1102.—*Leaves* at firſt diſpoſed in a circular figure, but little cut, when older divided into bluntly ſcolloped lobes, thin, tender, ſmooth, fine glaucous green. *Roots* from the under ſurface, fibrous. *Targets* in a hollow ſack in the leaf. DILL.

Chedder rocks not far from a ſubterranean river. On Snowdon, at the rocks of Llyn Cwn y Ffynnon Velen, and about Glogwyn y Garnedh. DILL.—[About the mouth of Yordas Cave, near Inlgeborough Hill. Dr. J. E. SMITH.] P. Jan.—Dec.

wood LI'CHEN *ſylvat'icus*. Leathery; creeping; jagged; pitted. Targets on the edge; aſcending.—

Dill. 27. 101.—*Hoffm. lich.* 4. 2.—*Mich.* 84. *ord.* 11, *leaves and ſegments too broad, and the ends of ſome repreſented as fringed.*

Large, lying on the ground, margin raiſed, irregularly divided into ſegments, which are lopped and angular at the ends. Surface dull brown green, red brown when old and dry, blackiſh at the ends, pitted, rough in the riſing parts with minute black warts. Underneath ſpongy and woolly. Subſtance tough, flexible, greeniſh or dirty white. *Targets* few, at the end of the narroweſt ſegments, ſmall, oblong or roundiſh, brown red. HOFFMAN.

In ſhady woods at the roots of trees. In the wood called Enfield Chace, near Southgate, Middleſex, near Dolgelle, Merionethſhire, Lucton Vallet, Herefordſhire. DILL.—Glen Eawood and other places about Kirkmichael, Dumfrieſshire. BURGESS *in Fl. ſcot.* P. Jan.—Dec.

β Above of a fine green, the edges a little curled, and powdered with a bright yellow meal. Mr. NEWBERRY.

[On aſh, ſycamore, and oak in the North Weſt of Devonſhire. Mr. NEWBERRY.]

veined LI'CHEN *veno'ſus*. Leathery, creeping, egg-ſhaped, flat, veined and woolly underneath. Targets at the edge, horizontal.—

Dill. 28. 109.—*Hoffm. lich.* 6. 2.—*Mich.* 44. 3, 5.—*Dill.* 28. 110, *in its young ſtate.*

At firſt ſmall, circular, flat on the ground; when older raiſed up, 1 or 1½ inch over, oblong or egg-ſhaped, border divided into a few ſegments, but irregularly and obliquely. Surface greeniſh, grey or brown when dry; white and brown variegated underneath, with large veins, thick, woolly, brown, dividing at the extremities. Root at the baſe of the leaf, wedge-ſhaped, ſhort. *Targets* at the end of the lobes, ſitting, concave or convex, circular, horizontal, dark brown purple. HOFFMAN.

Moiſt rocks under ſhady brows in ſeveral parts of Glenkill Linn, and Glenkill Burn, in the pariſh of Kirkmichael, Dumfrieſshire. Dr. BURGESS *in fl. ſcot.* 844.—Moiſtiſh ſtones and rocks about Dunkeld, Scotland. P. Jan.—Dec.

F. SOOTY.

F. Sooty. *Adhering only by one point. Surface as if ſprinkled with ſoot.*

LI'CHEN *deuſ'tus.* Surface on both ſides even.— *ſmutted*

Dill. 30. 117.—*Vaill.* 21. 14.

So brittle, that unleſs when moiſt, it cannot be ſeparated from the rocks without being torn. Linn. *ſuec. n.* 1105.—Circular, 1 to 1½ inch diameter, lobed, leathery, grey and ſoft above, rather roughiſh, and brown grey or blackiſh underneath. *Targets* ſmall, black, but little raiſed. Dill.

St. Vincent's rocks near Briſtol. Dare *in Dill.*—About Llanberris. Mr. Davies *in ſt. ang.* P. Jan.—Dec.

LI'CHEN *minia'tus.* Umbilicated, hunched; dotted; tawny underneath.— *cloudy*

Jacq. miſc. 11. 10. 3.—*Bolt.* 131. *C.*—*Dill.* 30. 127.—*Hall. enum.* 2. 2. *at p.* 91, *repr. in hiſt.* 47. 2, *at* iii. *p.* 88.—*Fl. dan.* 532. 1.—*Mich.* 54. *ord.* 36. 1.—*(Vaill.* 21. 14, *is L. deuſtus.)*

Leathery, thick, tough, ſtrong; firmly fixed to rocks by a central root, irregular in ſhape, generally lobed, colour that of coffee with plenty of cream added to it; apparently ſcaly on the ſurface, but they are ſmall brown dots, turning blackiſh, underneath ochrey red. Shrinks and twiſts much in drying. Jacquin.—*Leaves* many together, outer ones by far the largeſt, waved at the edge. Inner leaves crowded, edges turned down and indented ſo as to have a wrinkled or curled appearance. Dill.—*Dots* of the colour of red lead. Mr. Woodward.

On rocks and large ſtones. [A rock at Ilam, Derbyſhire, is covered with it for ſeveral yards. Mr. Woodward.]

P. Jan.—Dec.

β Lightf. 858. Huds. 549. Plant duſky olive. Bolt.—Leaves elevated and coiled like hollow cylinders. Lightf.

Fl. dan. 532. 2.—*Mich.* 54. *ord.* 36. 2.—*Bolt.* 131. 6.—*(Dill.* 30. 128 *and Bolt.* 131. *a. is a diſtinct ſpecies.)*

On rocks mixed with α. [Ilam, Derbyſhire, growing with α. Mr. Woodward.]

LI'CHEN *polyphyl'lus.* Compoſed of ſeveral leaves; even on both ſides; greeniſh black; ſcolloped.— *ſmooth*

Jacq. coll. ii. 16. 1. *a to i.*—*Dill.* 30. 129.—*(Mich.* 54. *ord.* 36. 2, *is L. miniatus* β.—*Hall.* 47. 5, *at* iii. *p.* 88, *is a different plant.)*

Leaves growing from a ſingle ſtony root, lying in a circle, tiled, inner ones the ſmalleſt, thin, ſmooth on both ſides, neatly ſcolloped, ruſſet brown above, darker underneath. Dill.

On

On rocks and ſtones. On Snowdon, at Llyn Llydaw rocks, and about Llyn Cwm y Ffynnon làs, and on the tops of the mountains Cwm Brwynog towards Ardhu, near Llanberris, Caernarvonſhire. DILL.—Rocks on the Highland mountains. LIGHTF. [ST.]

P. Jan.—Dec.

fibrous LI'CHEN *polyrhi'zus.* Compoſed of ſeveral leaves, of an even ſurface on both ſides; fibres numerous. LINN. —Smooth above, fibrous and black underneath. LIGHTF. 864.

Hoffm. lich. 2. *f.* 3. 4.—*(Not Hoffm. lich.* 26. 3.*)*—*Hall. enum.* 2. 4, *at p.* 91; *repr. in hiſt.* 47. 4, *at* iii. *p.* 88.—*Dill.* 30. 130.—*Fl. dan.* 597. 1.—*(Dill.* 30. 118, *and Fl. dan.* 471. 3, *are L. torrefactus.)*

Plant circular, expanded, thick, ſome inches over, edge curled, irregularly nicked and ſcolloped. Surface wrinkled or plaited, grey white, ſprinkled with minute dots, ſometimes cracked, ſometimes powdery, ſometimes ſmooth. Under ſide very black, cloſely ſet with ſhort forked tendrils; root central. Not quite certain that it is the plant of Linnæus. HOFFMAN.—Certainly the ſame as DILL. 30. f. 130, referred to by LINN. WITH.—Colour cinereous, darker towards the edges. Smooth above, underneath quite covered with fibrous roots, except near the centre which is naked and ſmooth. *Fructifications* numerous, black, and as Dillenius deſcribes them "ſurrounded with a margin and tubercled in the center." Mr. RELHAN.—Beſides the black fibres underneath, it ſeems to have a *central* root, which being broken off leaves the bare place mentioned by Mr. Relhan, and figured by Hoffman, which further ſatisfies me that the plant of Hoffman, Dillenius, and Lightfoot, are the ſame. WITH.

In the ſame places with *L. polyphillus.* DILL.—On rocks in the Highlands, LIGHTF. ST.—and Lowlands. Dr. BURGESS *in Fl. ſcot.* —Clark's park and paradiſe near Money Muſk, Aberdeenſhire.

P. Jan.—Dec.

button LI'CHEN *proboſcide'us.* Umbilicated. Targets turban-ſhaped, lopped, perforated.—

Hedw. ſtirp. ii. 1. *A.*—*Jacq. miſc.* ii. 9. 2.—*Dill.* 29. 116.—*Fl. dan.* 471.

Leaves an inch diameter, roundiſh, circular, unequally and bluntly lobed at the edge, with a root from the center, ſmooth underneath, here and there throwing out a fibrous root, above flattiſh, or ſomewhat twiſted, aſh-coloured, roughened with brown elevated points. *Targets* ſcattered over the ſurface, black, very ſmall,

ſmall, pierced with a pore down to the leaf, with a broad flat edge. LINN.—Flat, extending every way from a central root. Deeply divided into lobes; irregular and curled at the edge. HEDWIG.—*Root* ſtony. *Leaves* not more than an inch long; looſe, broad, concave, ſegments fringed, ſmooth on both ſides, not ſhining, when wet pellucid like horn, dull grey green. DILL.—*Targets* ſitting, or on pedicles, convex, often marked with concentric circular lines. JACQ. miſc. ii. 81.

On the rocks called Llyn Llydaw, and near Llyn Cwm y Ffynnon làs; alſo on the tops of the mountains from Cwm Brwynog, towards Ardhu, near Llanberris; and on the higheſt rocks of Berwyn mountain, Derbyſhire. DILL. — Rocks on the Highland mountains. LIGHTF. [ST.]—[On rocks in the mountainous parts of Dartmoor, Devonſhire, rare. Mr. NEWBERRY.] P. Jan.—Dec.

LI'CHEN *pul'lus*. WOLF *in Jacq. miſc.* ii. 83.— Umbilicated, ſmooth on each ſide, between plaited and curled, lobed, pimpled underneath; above beſet with convex depreſſed targets. MURR. *in ſyſt. veg.* 962.— Above broken, black underneath. Targets compreſſed, of the ſame colour. DICKS. ii. 23. *dark brown*

Jacq. miſc. ii. 9. 3.

Leaves thin, tough, leathery, circular, fixed to a central root, pimpled, lobed, curled. *Tubercles* like targets, roundiſh, protuberating, ſitting, marked with ſerpentine or concentric lines. JACQ. miſc. ii. 83.

Rocks on the mountains of Scotland.

LI'CHEN *puſtula'tus*. Pitted underneath; ſprinkled over with a black bran.— *ſinged*

Hoffm. lich. ii. 28. 1. 2.—29. 4.—*Dill.* 30. 131.—*Fl. dan.* 597. 2.—*Mich.* 47, *much larger than I have ever ſeen it.*—*Vaill.* 20. 9.

Greeniſh when moiſt. LINN.—*Root* ſingle, central, of a ſtony conſiſtence.—*Leaf* ſingle, concave, circular, 2 to 5 inches over, thin, membranaceous, lobes broad, ſhallow, deeper in the old plants, covered with numerous puſtules, round or oblong, hollow, opening under the leaf. Plant when wet brown green at the edge, leaden grey in the center, dirty yellow to blackiſh underneath. Subſtance white. DILL.—*Saucers* very rare, only found on the very largeſt plants, amongſt the puſtules, circular, black, flattiſh; border thin, of the ſame colour. Plant flexible when wet, brittle when dry. HOFFM. Lich. ii. 1. p. 14.

On rocks with a South expoſure under Keven Lees Caſtle, Radnorſhire, and on a large maſs of rock on the right of the road from Penmorvay

Penmorvay to Dolbelmen, Caernarvonſhire. DILL.—Near Halifax, Yorkſhire, BOLT. *in Hudſ.*—In Scotland. LIGHTF.—[Malvern Hills, Worceſterſhire. ST.] P. Jan.—Dec.

A beautiful red colour may be prepared from it. LINN.—And it may be converted into an exceedingly black paint.

crumpled LI'CHEN *torrefac'tus.* Blackiſh brown, wrinkled above, reticulated and fibrous underneath. Warts black, curled. LIGHTF. 362.

Hoffm. lich. 2. 1. 2.—*Dill.* 30. 118.—*Fl. dan.* 471. 3.

L. polyrhizos. HUDS. 550.

Plant expanded, circular, 2 or 3 inches over; thick, rigid, brittle when dry; edge indented, ſegments ſhort, irregularly ſcolloped, and ragged. Surface black, browniſh towards the center, texture like leather, rough, tubercles black ſemi-globular grains. Under ſide ſmooth, grey brown, reticulated with veins, no root but in the center. HOFFMAN.—*Targets* black, oval, like protuberating warts, wrinkled. DILL.

Found in the ſame places with *L. corneus.* DILL.—On rocks and ſtones. On St. Vincent's Rocks, near Briſtol. HUDS.—About Llanberris. Mr. DAVIES *in Fl. ang.*—On the Highland Rocks frequent. LIGHTF.—[On rocks in the mountainous parts of Dartmoor, Devonſhire, rare. Mr. NEWBERRY.] P. Jan.—Dec.

G. GLASS-SHAPED. *Receptacle like a drinking glaſs.*

cup LI'CHEN *pyxida'tus.* Glaſs-bearing, ſimple, finely ſcolloped. Tubercles brown. LINN.—Foot-ſtalk upright, cylindrical, ſupporting a glaſs-like cup. Tubercles on the edge, roundiſh. HUDS.

Great is the difficulty of aſcertaining which of the numerous appearances of this tribe are ſpecies, and which varieties. Linnæus has made almoſt all diſtinct ſpecies, Mr. Hudſon varieties, the truth probably lies between both extremes. Mr. WOODWARD.

α *Vaill.* 21. 8.—*Dill.* 14. 6. *A. B.*—*Walc. No.* 9. *f.* 2.—*Mich.* 41. *ord.* 8. 1, *K, the firſt L. Q.*—*Tourn.* 325. 2; *D.*—*Ger. em.* 1560. 6, *cop. in Park.* 1308. 11.—*Vaill.* 21. 7, *is thought by Dill. to be the ſame plant grown old.*

Cruſt at firſt granulated, in time forming *leaves* which are of no certain figure, ſmall, cut at the edge, greeniſh above, white underneath. *Tubes* ½ to 1 inch high, ſpringing from the baſe of the leaves, thickeſt upwards, and expanding at the ſummit like a drinking glaſs; ſcolloped at the edge, the hollow of the upper expanded part ſeparated by a partition from the hollow of the tubular part below. Theſe tubes are of a light grey colour; ſometimes mealy. DILL.

Cup.

Cup-moſs.—Heaths, woods, banks, and rocks, and about the roots of old trees. P. Jan.—Dec.

The powder of this, and a decoction of it were formerly given to cure the Chin-cough.

β New cups riſing from the center of thoſe below.

Fl. lapp. n. 431. *ſuec. n.* 1111.—*Dill.* 14. 6. *D to H.*—*Vaill.* 21. 5.—*Walc. f.* 3.

Cups ſometimes riſing one out of the other to 5 ſtages, and ſometimes with ſmall ſitting brown or blackiſh tubercles. LIGHTF.

γ *Fl. ſuec.* Cups proliferous from the edge.

Vaill. 21. 9.—*Dill.* 14. 6. *I.*—*Walc. f.* 4.—*H. ox.* 15. 7. 4, *p.* 634.—*Mich.* 41. 7 *and* 8.

Cups riſing ſometimes to 4 ſtages. *Stalks* ſometimes leafy. LIGHTF.—Frequently covered with much greeniſh meal, and a leafy cruſt, but the baſe is only a greeniſh cruſt, not leafy. DILL.

γ HUDS.—Proliferous, with tubercles.

Vaill. 21. 11.—*Dill.* 14. 6, *C, K, L, M.*

L. tuberculatus. Relh. n. 879.

Heaths and ſuch like dry places, on ſtones and trunks of trees covered with a thin coat of ſoil. DILL.—Woods and walls. RELH. P. Jan.—Dec.

δ HUDS.—*fimbriatus.* Glaſs-bearing. Cup ſimple, finely toothed. Stem cylindrical. LINN.

Dill. 14. 8, *A, B.*—*Happ.* iii. *Lichen* 2, *a and c.*—*Mich.* 41. *ord.* 8. 5 *and* 4.—*Vaill.* 21. 6.—*Mich.* 41. *ord.* 8. 4, *is alſo referred to by Linnæus, on account probably of its cylindrical ſtem, though the edge of the cup is very entire.*—(*Dill* 14. 9, *is L. cornucopioides.*)

Stems ſlender. Tubercles and cups ſmall, the latter finely ſerrated at the edge. *Leaves* lying on the ground, ſmall, variouſly cut, grey green, leſs grey than the cups. *Tubercles* ſmall, brown, fixed to the little teeth of the cup, not commonly occurring. DILL.

Lichen fimbriatus. Linn. Lightf. Relh.

Moors, heaths, dry paſtures, common. P. Jan.—Dec.

ε HUDS.—Proliferous from the ſerrated edge of the cup. LIGHTF. 871.—Sometimes to 3 ſtages. HALL.

Dill. 14. 8. *C. and Happ.* iii. *Lichen* 2.—*Vaill.* 21. 9.—(*H. ox.* xv. 7. 4. *p.* 632, *is L. pyxidatus* γ.—*Mich.* 42. *P. P, ſhould ſeem to be L. cornucopioides* β.)

ζ *Trumpet-ſhaped.*

Dill. 14. 10.—*Mich.* 41. 6.—*Vaill.* 26. 10.

Leaves compact, ſpread on the ground, variouſly cut, ſegments rather raiſed, fine green above, white underneath, rather thick, ſtiffiſh, large for the ſize of the plant and numerous, by which and by the ſmallneſs of the cups it may be readily diſtinguiſhed. *Cups* in

in the winter grey white, in the ſpring brown. *Tubercles* not common, very ſmall, ſcarlet, on ſhort foot-ſtalks, the cups now ſplitting into ſegments forming ſtalks to the tubercles. DILL.

Lichen filiformis. Hudſ. ed. I. 456. Relh. n. 882.—*L. tubiformis.* Lightf. 871.

Black Heath, near Greenwich, and other ſimilar ſituations. DILL.—Woods, at the roots of old trees, LIGHTF.—and walls. RELH.

ν HUDS.—*exiguus.*

Dill. 14. 11.

Leaves numerous, ſmall, glaucous green above, white underneath, ſmaller, ſhorter, broader, leſs cut and leſs upright than the preceding. *Cups* ſhorter, brown within, very ſmall. DILL.

Heaths near Charlton and Woolwich. Jan.—Feb. DILL.

9 HUDS.—Elk's-horn.—Leaves nearly upright, jagged, curled, bearing cups. Cups very ſhort, conical. HUDS. *ed.* I. 457.—Simple, afterwards proliferous with black tubercles. LIGHTF. 872.—Leaves large, half upright, even, cartilaginous, flat, branches like an Elk's horn, edges rather turned in, grey or yellow green above, white underneath. *Cups* from the diſk and the edges of the leaves, very ſmall, ſlightly hollowed, rounded or angular, edges often very minutely toothed. DILL.

Dill. 14. 12, *A, B, D.—Vaill.* 21. 3.—*Mich.* 42. *ord.* 8. 1 *and* 2.—*H. ox.* xv. 7. *row* 3. 3. *at p.* 632.—*Barr.* 1278. 4, *may be a portion of the leaf.*

L. foliaceus. Hudſ. ed. I.—*L. alcicornis.* Lightf. 872. Relh n. 1083.

1. As characteriſed by Mr. Hudſon above.—*Dill. ib. f. A.* Black Heath, and other dry heaths and paſtures.

2. Very much branched; leaves at the diviſions of the ſtem; branches terminating in cups; cups toothed, edged with tubercles. *Dill. ib. f. B.*

Snowdon.

3. Stem branched; branches running into leaves. Leaves upright, with winged clefts. *Dill. ib. e. f. D.*

Trowbridge, Wiltſhire. DILL.

ι HUDS.—Cup ſimple; very entire. Fruit-ſtalk cylindrical. Tubercles ſcarlet. LINN.

Happ. iii. *Lichen* 5. 1.—*Dill.* 14. 7.—*Vaill.* 21. 4.—*Mich.* 41. *ord.* 8. 3.—*(Vaill.* 21. 11, *is L. pyxidatus* δ.—*Mich.* 41. *ord.* 8. 4, *is L. fimbriatus.—H. ox.* xv. 7. *row* 2. 4, *is L. pyxidatus* γ.)

Cups greeniſh grey, ſometimes ſpringing one out of another.—Tubes ſlender, cups at firſt but little hollowed, edged with beautiful ſcarlet tubercles. DILL.

L. cocciferus. Linn. Lightf. Relh.

Heaths

Heaths. Oct.—Spring. DILL.

κ HUDS.—*cornucopioides*. Glaſs-bearing. Cup ſimple, ſhorter than the leaves. Tubercles ſcarlet. LINN.

Dill. 14. 9.

Cruſt leafy, greeniſh. *Cups* grey, edged with a leafy fringe, tipped with ſmall brown tubercles, often proliferous. DILL.

L. cornucopioides. Linn. Lightf. Relh.

Moors and heaths, with L. cocciferus. P. Jan.—Dec.

λ HUDS.—*cornutus*. Glaſs-bearing, nearly ſimple, ſomewhat bellying. Cups entire. LINN.

Dill. 15. 14.—*Barr.* 1277. 1.

Cruſt on the ground, ſupporting curled leaves, and theſe producing tubular fructifications, upright or bending, ſmooth or rough with a mealy cruſt, greeniſh or greying, hollow, entire at the top, pointed or forked, with or without tubercles, ſometimes branched at the baſe. *Tubercles* on the edge of the tubes which then appear as if cut acroſs. DILL.

L. cornutus. Linn. Lightf. Relh.

On moiſt heaths and moors. P. Jan.—Dec.

μ HUDS.—Nearly ſimple; ſomewhat inflated; cups toothed. LINN.

Fl. lapp. 11. 5.—*Mich.* 41. *ord.* 7. 1.—*Dill.* 15. 18.

Stem upright, ſometimes crooked, thick as a gooſe quill, ſometimes with 1 or 2 branches, thickeſt upwards, ending in ſmall ſhallow cups, edged with 4, 5, or more teeth. Colour dirty grey green. Surface mealy and woolly, often incruſted with criſp foliage. *Tubercles* ſmall, reddiſh. *Leaves* ſmall, cut, hoary grey, on the lower part of the ſtem. DILL.

L. deformis. Linn. Lightf. 876.

On rotten wood moſtly in woods, DILL.—and heaths. RELH. *n.* 886.

ν HUDS.—Very much branched; inflated; cups toothed; tubercles brown. HUDS.

Dill. 15. 17.

Stem nearly cylindrical, expanding into a cup, which branches out into a number of ſub-diviſions, which terminate in their turn in other cups, divided into teeth, and tipt with brown tubercles.—Growing in cluſters. *Stems* upright, ſtiff, thinneſt at bottom, ſwelling at top into a cup, which branches out into numerous rays or ſpokes bearing other cups. Plant about 2 inches high, covered with a hoary wool. *Cups* on the branches bearing ſmall browniſh *tubercles* in the ſpring. *Leaves* ſmall, ſcolloped, hoary. DILL.

L. ventricoſus. Hudſ. ed. I. 457. Lightf. 875.

On rotten wood, moſtly in woods. DILL.

ξ HUDS.

ξ Huds.—Very much branched; branches cylindrical; cups entire, edged with round tubercles. Linn.

Dill. 15. 19.

Tubercles numerous, ſcarlet. In doubt whether to reckon this as bearing cups. When without tubercles the ſtems terminate in blunt, unequal finger-like horns, forming a kind of cavity but not a proper cup. *Stems* hollow, 1 or 1½ inch high, hoary grey, moſtly branched, of unequal thickneſs, rough with greyiſh or browniſh eminences. *Tubercles* terminating, numerous, fine ſcarlet. *Leaves* ſmall, hoary, ſlightly cut. Dill.

L. digitatus. Linn. Lightf. Relh.

Barren heaths and woods at the decayed roots of trees. Dill. Feb.

ο Huds.—*Dill.* 15. 20.—*Hag.* 2. 9, *is ſuppoſed by Hagen to be the ſame plant, but in his figure there is no appearance of any cup.*

Leaves at the baſe ſmall, ſcolloped, rather hoary. *Stems* ½ to 1½ inch high, ſlender, greyiſh, ſmooth, or with a leafy greeniſh cruſt. *Tubercles* terminating, generally on a broad baſe, ſomewhat reſembling a cup, ſmall, roundiſh, brown, black when dried. Dill.

Woolwich Heath. Dill. Feb.

π Huds.—*Dill.* 14. 13.—*H. ox.* xv. 7. *row* 3. 6, *p.* 632.—*Mich.* 41. *ord.* 7. 5.

Stem in ſome plants tapering to a point, in others terminated by a cup tipt with tubercles. Linn.—*Leaves* at the baſe numerous, deeply cut, grey green, hoary underneath. *Stems* 1 to 3 or 4 inches high, but the more they are branched the ſhorter they are; at firſt grey, at length browniſh towards the top, and wholly brown when in fruit; ſlender, hollow, ſmooth; top ſlender, except when bearing cups and tubercles, ſimple or branched. *Cups* ſmall, ſerrated at the edge. *Tubercles* on the teeth, roundiſh, reddiſh brown. Dill.

L. gracilis. Linn. Lightf.

Mountainous and rocky heaths. Leath Hill, Surry.

P. Jan.—Dec.

ρ Huds.—*Dill.* 15. 16.—*Mich.* 41. *ord.* 7. 3, 4, 2.—*Scheuchz. it.* 1. 5. 3.—*Vaill.* 7. 7, *ſaid by Dill. to be ill done.*

Leaves at the baſe, ſometimes alſo fixed to the ſtem, ſmall, finely cut, hoary green above, white underneath. *Tubes* greyiſh green, about two inches high, ſoft, hollow, ſimple or branched, thickeſt upwards, ending in ſhallow cups with oblong hollow horn-ſhaped ſpokes on the edge. Theſe ſpokes are not branched, but they ſometimes terminate in ſmaller cups, ſupporting other ſmaller ſpokes. *Tubercles* on pedicles on the edges of the cups, or terminating the branches, reddiſh brown. Dill.

Enfield Chace, Middleſex. Dill.

H. Shrubby.

H. SHRUBBY. *Shooting into branches like a tree or a ſhrub.*

LI'CHEN *fragi'lis*. Shrubby; ſolid. Little branches round, blunt. LINN.—Smooth. Little branches nearly round. Tubercles terminating, globular, hollow. HUDS. *(including L. globiferus as a variety.)* *brittle*

Dill. 17. 34.—*Jacq. Miſc.* ii. 9. 6.—*Fl. lapp.* 11. 4.

It cannot be gathered without breaking, except when moiſt, as it is more brittle than a Coralline which it alſo much reſembles. LINN. —Stem and branches ſhort, cylindrical, ſolid, brittle, blunt, rather ſhining, dirty white, often reddiſh at the ends; white within. JACQUIN.—Grows compacted together, ſhrub-like, 1 or 1½ inch high. *Roots* woody, brown black, penetrating the fiſſures of ſchiſtus rocks. *Stems* ſtiff, like ivory. *Branches* numerous, cylindrical, ſmooth, blunt at the end, forked or entire. Fruit-bearing plants thicker, broader, compreſſed, pitted and unequal. *Tubercles* hard, ſolid, globular, filled with ſooty powder. DILL.

On rocks and ſtones on mountains and high heaths.

P. Jan.—Dec.

β HUDS.—Shrubby; ſolid; ſmooth. Tubercles globular; hollow; at the ends of the branches. LINN.

Dill. 17. 35.—*Fl. dan.* 960.—*Mich.* 39. 6.

Similar to *L. paſchalis*, but ſmoother, leafleſs, and the branches terminated by globular tubercles, hollow with a ſmall mouth, gaping ſpherically, black within. LINN.—Slender, very much branched, glaucous grey, 1 to 2 inches high, cylindrical, ſoft when freſh, ſtiff when dry, ſmooth. *Tubercles* terminating, numerous, globular, containing a black powder, the outer coat thick, cracking in 3 or 4 places. DILL.

L. globiferus. Linn. Lightf. 887.—*L. globoſus*. Hudſ. ed. i. 460.

Rocks at Tunbridge. On the Stieperſtones, Shropſhire. Snowdon, and in the Highlands and Lowlands. [Rocks in the mountainous parts of Dartmoor, Devonſhire. Mr. NEWBERRY.—Rocks in the North of England. Mr. WOODWARD.]

LI'CHEN *muſci'cola*. SWARTZ.—Shrubby, appearing as if cruſtaceous; very much branched. Branches very ſhort, interwoven, blackiſh green. Saucers of the ſame colour. DICKS. ii. 23. *interwoven*

Dickſ. 6. 9.

Rocks, growing on moſs, on the higher mountains of Scotland.

LI'CHEN *Papilla'ria*. Shrubby, fiſtular, leafleſs, whitiſh. Branches very few, blunt, very ſhort. Tubercles terminating, fleſh-coloured. EHRHART *in Dickſ.* 13. *madrepore*

Dill.

Dill. 16. 28.

Hardly ½ an inch high. *Stems* ſlender, white, ſmooth, unequal, with here and there a knot, as if jointed. *Branches* very ſhort, terminating, ending like the top of a double tooth. *Cruſt* cracked. DILL.

Heaths. Near Bagſhot on the road to Farnham. DILL. 107.

Spring. Winter.

incruſted LI'CHEN *paſcha'lis*. Shrubby, ſolid, covered with little cruſtaceous leaves.—

Dill. 17. 33.—*Hoffm. lich.* 5. 1.—*Mich.* 53. 5 *to* 8.—*Fl. dan.* 151.—*Happ.* ii. *Lichen* 2.—*H. ox.* xv. 7. 12.—*Scheuch. it.* 19. 4, *at p.* 136, *cop. in Pet. gaz.* 65. 7.

Stems very ſmooth, beautifully incruſted with leaves, eſpecially when viewed through a magnifying lens. Eaten by Rein-deer. LINN.—Upright or decumbent, many roundiſh ſtems iſſuing from a larger ſtem, divided and ſub-divided, the extremities bent, woody, flaccid when wet, pale ſea-green to yellow or red brown. Young plants covered with a brittle cruſt. *Warts* very minute, numerous on the extreme branches. Tubercles like *ſaucers*, ſingle or crowded, of a brown colour, are ſcattered over different parts of the plant. From 1 to 4 inches high. HOFFMAN.—Woody at the baſe, fixed like ſea-weeds to the rocks. *Stems* tough, woody, variouſly branched, zigzag, 1 to 2 inches high. *Stems* incruſted, ſometimes naked, eſpecially in the lower part of the older plants. Branches generally incruſted with ſmall granulations. *Tubercles* ſingle, or in cluſters, round, red brown, ſmooth. DILL.

Upon rocks on high mountains. [Near Ambleſide, Cumberland. Dr. J. E. SMITH.—In the mountainous parts of Dartmoor, Devonſhire. Mr. NEWBERRY.] P. Jan.—Dec.

rein-deer LI'CHEN *rangiferi'nus*. Shrubby, perforated, very much branched, little branches nodding.—

Dill. 16. 29.—*Fl. dan.* 180.—*Mich.* 40. 1.—*Ger.* 1380. 5, *cop. in Ger. em.* 1572. 5, *and again in Park.* 1310. 8.

Branches perforated in the forks. LINN. *ſuec. n.* 1117. — Light, brittle, hoary when dry; grey green or whitiſh, tender and ſoft when freſh. Surface covered with mealy particles. Has neither leaf nor leafy cruſt. Roots not eaſy to find; it adheres ſlightly to the earth and to Moſſes, from which it readily ſeparates. But many ſpecies of Lichen ſeem deſtitute of roots, and to be nouriſhed by the leaves, or by a mucous matter at the baſe. About 2 inches high, divided and ſub-divided into branches all the way up, the ends turning down. *Tubercles* ſmall, roundiſh, reddiſh, ſhining, black when dry, on the terminations of the branches. DILL.

Heaths

Heaths and high expoſed mountainous ſituations, DILL.—and woods. HUDS. P. Jan.—Dec.

The Laplanders could not exiſt without this plant. It is the food of the Rein-deer, which will grow fat upon it, and the Rein-deer ſupplies every neceſſary of life for the contented people of that inhoſpitable climate.

β *Dill.* 16. 30.—*Fl. dan.* 539.

Smaller branches reddiſh, and the whole when old turning brown. *Tubercles* darker brown than thoſe of the preceding, more crowded, more frequently found. Branches ſometimes bearing ſmall criſp leaves. DILL.

In the ſame places with α. DILL.

LI'CHEN *ſiliquo'ſus*. Shrubby, ſolid, compreſſed, ſomewhat branched. Tubercles lateral, concave. HUDS. *ed.* i. 460. *ed.* ii. 559. *podded*

Dill. 17. 38.—*H. ox.* xv. 7. *row* 3. 4.

Stems many, from a chalky baſe, upright, ſtiff, ſwollen but compreſſed, filled with a white fungous ſubſtance, 1 to 2 inches high, ſimple or with 2 or 3 forks; at firſt even, but with age furrowed lengthways and divided acroſs like a pod containing ſeeds. In time theſe inequalities project like ſmall warts, of a grey white colour, whilſt the reſt of the plant is grey green, becoming yelloviſh with age. DILL.

On the large ſtones ſcattered over the Grey Weathers, Wiltſhire, and on rocks in Wales. DILL. P. Jan.—Dec.

LI'CHEN *ſubula'tus*. Shrubby; ſomewhat forked; branches undivided; awl-ſhaped.— *horned*

Dill. 16. 26.—*Ger.* 1374. 8, *cop. in Park.* 1308. 12, *and J. B.* iii. 767. 2.—*Buxb.* ii. 5. 2, *repreſents it as beſet with white warts.* —*(Ger. em.* 1561. 8, *is Acroſtichum ſeptentrionale.)*

Stems 1 to 2 inches or more in height, ſlender, grey, or greeniſh, white when dry, ſmooth, not branched at bottom. *Leaves* ſmall, ſcolloped, grey, hoary underneath. *Tubercles* ſmall, globular, ſolitary, red brown. DILL.—*Stem* ſometimes fringed with a few ſcattered cruſtaceous leaves. *Tubercles* ſmall, brown, globular, at the ends of the branches.

Horned Moſs.

Woods and heaths. P. Jan.—Dec.

β Branches forked. HUDS.

Dill. 16. 27.—*Hag.* 2. 10.—*H. ox.* xv. 7. *row* 3. 1. *p.* 632. —*Vaill.* 26. 7, 7, 7.—*Mich.* 40. 4, *and D.*—*(Barr.* 1277. 2, *is referred to by Dill. but ſeems more like L. uncialis* β.)

L. furcatus. Hudſ. ed. I. 458. Lightf. 881. Relh. n. 891.

Branches more numerous and ſhorter than in the preceding, and alſo more leafy. *Tubercles* terminating, ſmall, round, fleſh colour or yellowiſh. DILL.

β Leaves remarkably criſped and leafy. LIGHTF. 882. *Dill.* 16. 27. *D.*

Sometimes upright, ſometimes bowed. Leaves and warts numerous. DILL.

radiated LI'CHEN *triſ'tis.* Shrubby, ſolid. Little branches compreſſed, branched, blackiſh at the ends. Saucers terminating. LINN. *the Son.*—Smooth. Little branches nearly round, pointed. Saucers flat, radiated. HUDS. 559.

Web. 5.—*Hall. enum.* 2. 1, *at p.* 91, *repr. in hiſt.* 47. 1, *at* ii. *p.* 88, —*Dill.* 17. 37.—*Gunn.* ii. 2. 9 *to* 14?

L. corniculatus. Lightf. 885.—*L. radiatus.* Hudſ. 559.

Grows in denſe tufts. *Stems* about 1 inch long, reclining, moderately broad, compreſſed, ſolid, ſmooth, divided into a few horn-ſhaped branches, when freſh brown olive, when dry blackiſh; ſtiff, tough, horny, pellucid when moiſt. *Tubercles* terminating, plano-convex, circular or oblong, of different ſizes, blackiſh brown, fleſhy, fungous and white within. In ſome plants *ſaucers* are produced at the ends of the branches, flat or gently concave, border regular, of the ſame colour with the ſaucer, ſometimes bearing horn-ſhaped branches. Theſe ſaucers being ſmaller than the tubercles are probably changed into tubercles. DILL.

On Snowdon, on the top of the rocks from Cwn Brwynog towards Ardhu. DILL.—[On Carnedd Llewelin. Mr. GRIFFITH.]—Highland mountains, Roſshire, and Iſle of Sky. LIGHTF. and HUDS.—[On rocks in the mountainous parts of Dartmoor, Devonſhire, rare. Mr. NEWBERRY.] P. Jan.—Dec.

ſhort LI'CHEN *uncia'lis.* Shrubby; perforated; little branches very ſhort; ſharp.—

Dill. 16. 22.

Quite hollow, and very brittle when dry. Mr. WOODWARD.—Grows in denſe tufts. *Stems* ſhort, but little branched, longer and more branched with age, hardly more than an inch high, yellowiſh or greeniſh white, quite white and brittle when dry. *Tubercles* very ſmall, reddiſh brown, diſpoſed like ſtars on the horn-ſhaped extremities of the branches. I have ſometimes, though rarely, found ſome whitiſh ſcolloped foliage at the baſe. DILL.

Heaths and ſtony places in mountainous ſituations. [On dry heaths and rocks thinly covered with earth. In Dartmoor, Devonſhire.

ſhire. Mr. NEWBERRY.—On moors in the North of England. Mr. WOODWARD.] P. Jan.—Dec.

β HUDS. 555. Larger and leſs crowded in its growth.

Dill. 16. 21.—*H. ox.* xv. 7. *row* 3. 7. *p.* 633.—*Mich.* 40. 2—*(Hall.* 16. 21, *in Fl. ang. is an error of the preſs.)*

From 2 to 4 inches high. *Stems* thick, tender, ſmooth, forked again and again, but not much branched, armed at each diviſion of the forks with ſoft thorns, open at the ends, terminating in 3, 4 or 5 rays. *Tubercles* infrequent, ſmall, reddiſh. Plant when freſh, pale yellowiſh green, or whitiſh; quite white when dry. DILL.

High heaths. Leath Hill, Surry, and the heath between Lippock and Petersfield, Hampſhire. DILL.

γ HUDS. 555. Branching like ſtags horns.

Dill. 16. 25.—*Mich.* 40. 5, *and* 3.—*Hag.* 2. 11.—*Col. ecphr.* ii. 83. 1, *cop. in Park.* 1310. 9.

Stem ſhort. Branches numerous, wide ſpreading, ſhort, hollow, cloven at the end, greeniſh, white within. COL. *Ecphr.*—*Tubercles* numerous, terminating, brown red. *Leaves* none. DILL.—Forms the connecting medium between the *L. uncialis* and *L. ſubulatus.* HUDS.

L. ſpinoſus. Hudſ. ed. I. 459, Relh. n. 1031. Lightf. 882, who from a compariſon of the Dillenian herbarium was led to conſider it as a variety of β.

Barren and expoſed mountainous ſituations. DILL.

LI'CHEN *vermicula'ris.* Shrubby, ſmooth, ſomewhat branched. Branches ſpreading. Tubercles ſcattered. LINN. *the Son, in ſyſt. veg.* 963.—Nearly cylindrical, awl-ſhaped, white. Tubercles lateral, globular. DICKS. ii. 23. *vermicular*

Jacq. col. ii. 12. 2.—*Hoffm. lich.* ii. 29, 1, 3.—*Dickſ.* 6. 10.

In tufts. Iſſuing and diverging from one central point. Awl-ſhaped, 2 to 3 inches long; ſoft, hollow, ſnowy white, reclining, very rarely branched, ſometimes here and there a little tooth is found, but no leaves. JACQ. coll. ii. 177.—*Stems* awl-ſhaped, tapering to a point, irregularly matted together, variouſly bending, rarely forked, here and there a ſhort lateral branch, not unlike tubercles, hollow within, tough and pliable when moiſt, brittle when dry. HOFFMAN. Lich. ii. 1. p. 15.

Among moſs on the higher mountains of Scotland.

I. THREAD-LIKE. *Shooting into long wiry or thread-ſhaped branches.*

LI'CHEN *articula'tus.* Thread-ſhaped; jointed; little branches very ſlender, dotted.— *jointed*

Col. ecphr. ii. 83. 2, *coarſely cop. in Park.* 1312. 5.—*Dill.* 11. 4.—*H. ox.* xv. 7. *row the laſt*, 11.—*Mich.* 39. 1.

Plant white; 6 to 12 inches long. *Stem* thick, branches very long, terminating ſub-diviſions very fine, hanging down.—Sometimes ſmooth and regular, ſometimes knotted; the ſmooth branches the fineſt, moſt flexible, and moſt ſub-divided. DILL.

In woods on branches of trees. Wood near Stoken-church, on Beech near Burnley, Lancaſhire, and on Hazel in Gattley Park, Herefordſhire. DILL. P. Jan.—Dec.

bearded LI'CHEN *barba'tus*. Thread-ſhaped; pendant; ſomewhat jointed. Branches expanding.—

Dill. 12. 6.

Two feet or more in length, branches not much thicker than a ſewing thread, greeniſh-white.—Not much branched, but the number of threads together form a conſiderably large buſh or tail. Theſe ſtraight threads ſend out lateral fibres throughout their whole length, either ſimple or divided, ſtanding out ſideways, not pendant. *Saucers* few, rarely met with, ſmall, fleſh-coloured. DILL.

Branches of trees. Foreſt of Dean, Gloceſterſhire, and near Biſhop's Caſtle. DILL.—Pine Foreſts, Scotland. LIGHTF. P. Jan.—Dec.

ſcabrous LI'CHEN *exi'lis*. Thready, very much branched, matted. Threads hair-like, matted, opaque, rough, LIGHTF. 894.—decumbent. Saucers concave, very entire. HUDS. 562.

(*Dill.* 13. 9, *is very properly referred to by Lightf. as repreſenting the plant, but it is not aſſerted to be Dillenius's plant, which is conſidered by Linnæus as his L. pubeſcens.—Fl. dan.* 879. 2?)

Saucers nearly as large as white Poppy ſeed, hemiſpherical, bordered, black, the bottom blackiſh-brown, the edge very entire. HUDS.—Seems nearly related to *Conferva* from its delighting in wet places, but the threads are not jointed. LIGHTF. 895.—Seems to be between a *Lichen* and *Conferva*. I never could perceive a *ſhield* on one of the many ſcores I have examined. Mr. NEWBERRY.

L. ſcaber. Hudſ. n. 100.

On the moſt naked rocks of the Highland mountains. LIGHTF.—[On rocks whoſe ſurfaces lie nearly even with the ground, on the ſides of hills, the ſoil of which is peat earth, in Dartmoor, Devonſhire. Mr. NEWBERRY.] P. Jan.—Dec.

flowering LI'CHEN *flo'ridus*. Thread-ſhaped; branched; upright. Saucers radiated.—

Hoffm.

Hoffm. lich. 30. 2.—*Col. ecphr.* 334. 3, *cop. in Park.* 1312. 3. —*Ger.* 1372. 6, *repr. in Ger. em.* 1560. 5, *and cop. in Park.* 1312. 2.—*H. ox.* xv. 7. *row the laſt.* 14.—*Happ.* ii. *Lichen* 3. —*Dill.* 13. 13. *A.*—*Mich.* 39. 5.

Grows very like a ſhrub. *Stem* very ſhort, blackiſh. *Branches* wide-ſpreading, numerous, grey green. *Saucers* large, terminating, concave, ſmooth, fringed. DILL.—Colour bluiſh green, the larger branches tawny, large for the ſize of the plant; ſmaller branches upright, cylindrical, thickly ſet with horizontal hair-like fibres. *Saucers* large, terminating, ſlightly concave, pale yellowiſh colour, ſometimes an inch in diameter; border fringed with long radiating fibres, which ſometimes alſo grow out of the under convex greeniſh ſide. HOFFM. *lich.* ii. p. 19.

Branches of trees, eſpecially oaks. DILL. P. Jan.—Dec.

β HUDS. ST.—Thread-ſhaped, very much branched, upright. Tubercles mealy, ſcattered. LINN.

Ger. 1372. 5.—*Dill.* 13. 12.—*Barr.* 1277. 4.

Stem very ſhort, woody. *Branches* many, ſending out ſhorter lateral branches 1 to 2 inches or more in length, grey green, beſet with thin ſtiff fibres. DILL.

L. hirtus. Linn. Lightf. Relh.

Woods, thickets, and old hedges. P. Jan.—Dec.

LI'CHEN *juba'tus.* Thread-ſhaped, pendant, compreſſed at the diviſions of the branches.— *fennel*

Dill. 12. 7, *imit. in Happ.* iii. *Lichen* 4.

In greateſt perfection in winter and ſpring; hanging down like the tail of a horſe. *Stems*, the upper and thicker ones compreſſed, brown green to blackiſh; the ſlender thread-like ſtems cylindrical, ſmooth, not hard, greeniſh, not much branched, but ſometimes twiſted; and very much matted together. DILL.

On rocks and old trees in the Weſt Riding of Yorkſhire. On rocks in Chorley Foreſt, Leiceſterſhire, and on the ſide of the Derwent, Derbyſhire. DILL.—Wales and Scotland. HUDS. and LIGHTF. P. Jan.—Dec.

It is uſed to cure ulcerations of the ſkin; and it is eaten by Reindeer.

β HUDS. LIGHTF. ST.—Thread-ſhaped, branched, drooping. Branches ſtraddling, ſerpentine and ſomewhat matted. LINN.

Dill. 13. 10.—*Fl. dan.* 262, *the ſtem too thick in proportion to the branches, if the plant.*

Stems ſtiff, cylindrical, diverging, variouſly bending, not crowded, 2 or 3 inches long, but little branched, grey to brown green. Growing on the trunks of oaks it does not hang down but clings to the bark. DILL.

L. chalybeiformis. Linn. Lightf.
Trunks of trees, ſtones, and old wood.

wool LI'CHEN *lana'tus.* Thread-ſhaped, very much branched, drooping, matted, opake.—

Jacq. miſc. ii. 10. 5.—*Dill.* 13. 8.

Reſembling the *L. pubeſcens*, but much finer, nearly as fine as hair, leſs rigid, nay rather ſoft, very much branched, decumbent, black green, opake. JACQ.—Two or 3 inches long. *Branches* not compreſſed, blacker and more crowded than in the *L. jubatus*, diverging in various directions, more branched and ſub-dividing into ſhorter and more numerous hair-like ſegments, matted together. DILL.

Rocks and ſtony places. In Cornwall. About a Borth one mile from Bangor, North Wales. DILL.—In the Highlands and Lowlands. LIGHTF.—[On rocks on the ſides of hills on Dartmoor, Devonſhire. Mr. NEWBERRY.] P. Jan.—Dec.

hairy LI'CHEN *plica'tus.* Thread-ſhaped, pendant; branches matted together. Saucers radiated.—

Dill. 11. 1.—*Matth.* 62, *imit. in Ger.* 1369, *and again* 1156. 1, *which repr. in Matth. a. C. B.* 65. 1, *and alſo in Lob. obſ.* 643. 2, *which repr. at* 583. 1, *in ic.* ii. 242. 1, *and* 155. 1; *Dod.* 471. 2, *Ger. em.* 1558 *and* 1339, *and cop. in Park.* 1312. 1; *and in J. B.* i. 6. 88.—*Trag.* 940, *on the right hand branch of the tree.*—*(Mich.* 39. 5, *is L. floridas.)*

Branches thread-like, not very thin, matted together, unequally divided into other branches, the ſlender diviſions fibrous, rather ſtiff, grey. *Saucers* lateral and terminating, flat, or but little concave, thin, grey above, browniſh underneath, without any proper border, but the edge fringed with radiating hairs. The old plants are covered with a rough, whitiſh, warty cruſt. DILL.

Tree Moſs.

Branches of trees in thick woods, but rare. Woodcote Wood, Hampſhire. A wood near Northwim, Hertfordſh. P. Jan.—Dec.

pubeſcent LI'CHEN *pubeſ'cens.* Thready, very much branched, decumbent, matted, ſhining.—

Jacq. miſc. ii. 9. 7.—*Dill.* 13. 9, *is cited by Linnæus, but omitted by Mr. Hudſon, who after Lightfoot places it under his L. ſcaber, which is the exilis of Lightfoot.*

Very black, exceedingly tender, reſembling very fine wool or rough ſilk. LINN. *ſuec. n.* 1126.—Allied to *L. lanatus* but ſmaller. HUDS. 562.—Conſiſting of fine threads, greatly branched, matted, ſhining,

ſhining, decumbent, very black. JACQ.—Grows in denſe tufts; branches and threads ſhort, very fine, matted together, ſmooth, ſhining. DILL.

Rocks and ſtoney places in Weſtmoreland. HUDS. P. Jan.—Dec.

LI'CHEN *vulpi'nus*. Thread-ſhaped, very much branched, upright; branches nearly of the ſame length, angular; angles unequal.— *braſs-wired*

Jacq. miſc. ii. 10. 4.—*Fl. dan.* 226.—*Dill.* 13. 16.

Lemon-coloured; always upright. *Stems* at firſt ſmooth, cylindrical, almoſt orange; paler with age, pitted, compreſſed, at length rough with a yellow farinaceous powder. JACQ.—Grows in cluſters round the branches of trees, chiefly oak. Shrubby; branches divided and ſub-divided, matted together in various directions, not more than 1 or 1½ inch long, cylindrical, thin, tender, ſoft in wet, rigid in dry ſeaſons, paler or deeper yellow, terminating in ſhort hair-like fibres. DILL.

Trunks and branches of trees. In a wood four miles from Baſingſtoke on the road to Saliſbury. Corſley Heath, Somerſetſh. About Slingford, Suſſex. In Deu Park near Horſham, and Eridge Park near Tunbridge. Near Totteridge not far from Barnet, Hertfordſhire. DILL.—On Dartmoor and elſewhere in Devonſhire, and frequent in Somerſetſhire. HUDS. P. Jan.—Dec.

In Norway they mix this plant with powdered glaſs, and ſtrew it upon dead carcaſes to poiſon wolves.—It dyes woollens yellow.

1320. TREMEL'LA. Star-jelly.

SUBSTANCE uniform; tranſparent; membranaceous; jelly-like, leafy.

ESS. CHAR. FRUCTIFICATIONS *ſcarcely perceptible; in a jelly-like ſubſtance.*

OBS. It differs from LICHEN in having neither Tubercles nor Saucers.

TREMEL'LA *al'bida*. Sitting, jelly-like, of various ſhapes, whitiſh. HUDS. 565. *whitiſh*

Leaf ſometimes with a tinge of ſea-green, and yellowiſh, ſomewhat wrinkled, ſolid, ſemi-tranſparent. HUDS. *n.* 12.

On the half rotten, fallen, branches of trees, in thick woods.

A. Sept.—May.

TRE-

livid TREMEL'LA *adna'ta.* Round, tiled, livid.—

Adheres closely by its whole substance to rocks; has the appearance of the Agarics which grow on trees, but is nearly membranaceous. LINN. *suec. n.* 1143.

Rocks and stones on the sea shore at low water. P. Jan.—Dec.

tree TREMEL'LA *arbo'rea.* Sitting, roundish, waved, blackish. HUDS. 563.—

Bull. 420.—*Dill.* 10. 15.—*Fl. dan.* 885. 3.

When fresh nearly transparent, with a blackish hue, which increases as it decays. It is very much wrinkled, the wrinkles when in a state of perfection fringed with fine whitish hairs. Mr. WOODW. —A membranaceous gelatinous substance, dull brown or reddish black, quite black when dry. Flat underneath; above raised irregularly into veins, and set with black tubercle-like dots. DILL. 54.—Waved and plaited, thick, pulpy, jelly-like after rains, never membranaceous; destitute of hairs. HALL. hist. 2038.

VAR. 1. *fusca.* Semi-transparent, brown.

Bull. 406. *B. resembles it, but our plant is a less red-brown.*

The plant occupies an irregular circular form, from 1 to 2 inches diameter. Substance like a stiff jelly of a dirty brown colour, divided down to the root. Lobes waved, plaited, 3-10ths of an inch broad, about 1-20th of an inch in thickness. When soaked in water it gives out freely to the water a colour like that of the deepest Madeira wine.

On the broken branch of a Hornbeam, on the pool dam, Edgbaston Park. 26th June, 1792.

Witches Butter.

Trunks of trees. [Common on fallen wood and dead sticks, in woods. Mr. WOODWARD.] A. Sept.—May.

garlick TREMEL'LA *Al'lii.* Sitting, membranaceous, labyrinth-like, grey, white within. DICKS. 14.

Act. nov. Holm. 100. *Dan. p.* 286. *f.* 1.

Becomes hard when dry. DICKS.

On rotten roots of *Allium Cepa*; *A. fistulosum*, &c.

cinereous TREMEL'LA *cine'rea.* RELH. *n.* 1086.—Sitting, ash-coloured, bent back, the edge curled, between indented and lobed. BATSCH *cont.* i. 197.

Batsch 26. 137.

When young circular or oblong, and more closed; when fully grown more expanded and irregular, when past maturity irregularly cushion-like with a pit in an imperfect disk, the edge with small

ſmall lobes; lobes ſhort, broadiſh. *Edge* between the elevated lobes between depreſſed and indented, and therefore appearing curled. *Subſtance* horny or ſemi-tranſparent, aſh-coloured, when moiſtiſh the whole dark, but white when it begins to dry, and when dried membranaceous dirty white. BATSCH.

Peziza cinerea. Batſch.

Inſide of decayed willows and ſtumps of trees. A. July, Aug.

TREMEL'LA *diffor'mis.* Roundiſh; indented, *ſea* of various forms, jelly-like.—

Very nearly allied to *T. verrucoſa*, but is ſoft and grows on Confervas. LINN. *ſuec. n.* 1140.

On Confervas and Fuci growing on ſubmarine rocks.

TREMEL'LA *granula'ta.* Jelly-like, ſpherical, *granulated* cluſtered, green. HUDS. 566.

Fl. dan. 705.—*Dill.* 10. 17.—*Geſn. ap. Cord. a Schmid. ic. lign.* 22. 195?

From a greeniſh mucilaginous ground, of no determinate figure, ariſe little heads, crowded together, green, at firſt ſitting, but when older ſupported on ſhort pedicles. Theſe heads are globular, hollow, filled with a watery fluid. When this fluid is waſted by the heat of the ſun, or loſt by the burſting of the heads, the top of the globe ſubſides, and ſeems hollow, or as if cut off. Skin of the heads thin, ſhining, when ripe changing to grey and then to whitiſh. DILL. 55.

Sides of ditches and in dried up ditches between Newington and Hackney. DILL.—About Charlton, Kent. HUDS.—Near the edges of ponds and ditches on the road to Hiſton, Cambridgeſhire. RELH. *ſuppl.* 1. 26. *n.* 1033. A. Oct.—May.

TREMEL'LA *hemiſphæ'rica.* Hemiſpherical; *hemiſpheric,* ſcattered.—

Wieg. obſ. 2. 3.

This uſually vegetates with a very ſmall, but hard ſpherical excreſcence, and varies in ſize from the minuteſt point to that of a ſmall vetch. It ſometimes covers the rocks to a conſiderable extent. At very low water in *ſpring tides*, and upon thoſe ſubmarine rocks which at that period only, are expoſed to air, I have very frequently found this plant (as I conceive it to be) in an inflated ſtate, quite globular and more than an inch in diameter. It is then of a moſt beautiful tranſparent green colour: it afterwards collapſes and dries into a hard ſinuated cruſt, not hemiſpherical, but of the ſame colour and texture as the Tremella, and indeed the edges of it are oftentimes rounded in a manner exactly ſimilar to the plant deſcribed. Theſe

are

are found in ſmall maſſes of the Tremella, growing promiſcuouſly therewith. Major VELLEY.—Plentiful. Conſiſts of granules fixed to the ſtones without any order; globular, but flatted on the under ſide, ſo that they may be conſidered as hemiſpherical; from ½ to 1½ line in diameter; ſlippery, gelatinous but tough, ſo as not to be eaſily broken by preſſing between the fingers. WIEG. obs. p. 39.

On Confervas and Fuci growing upon ſubmarine rocks.

P. Jan.—Dec.

meſenteric TREMEL'LA *meſenter'ica.* Sitting, membranaceous-jelly-like, rolled up, full of hollows, gold coloured. RETZ. *ſcand. n.* 1419.—Twiſted into manifold plaits. JACQ. *in ſyſt. veg.* 965.

Bull. 406, *and* 499. 6.—*Sterb.* 26, *the four figures in the right hand lower corner.*—*Vaill.* 14. 4.—*Schaeff.* 168. 1. 2. 3.—*Jacq. Miſc.* 1. 13.

On the dead branches of trees. Gelatinous, tremulous, pellucid, ſmeared with a viſcid moiſture; white when young, changing to yellow. Horny when dry; growing in irregular patches. JACQ.—Golden yellow, changing to tawny when old; variouſly plaited and wreathed. SCHÆFFER. iv. p. 108.

T. juniperina. Hudſ. 562, according to Mr. Dickſon, p. 14.—not the T. junip. of Linn. Mr. WOODWARD.

On the *Common Juniper*, *Ulex Europæus* and *Spartium ſcoparium.*

A. Sept.—May. HUDS.

On rotten wood. Autumn. DICKS.

common TREMEL'LA *Noſ'toc.* Plaited and waved.—*Bull.* 174; *and* 184, *(Mr. Woodward.)*—*Dill.* 10. 14.—*Mich.* 67. 1.—*Fl. dan.* 885. 1.—*Garſ.* 393. *C.*

Greeniſh or yellowiſh. Sub-gelatinous, conſiſting of ſeveral leaves variouſly lobed and waved, ſlightly adhering to the ground by a central root; the ſubſtance very thin. It varies in colour, but is uſually ſome ſhade of olive. Mr. WOODWARD.—Thin, ſkinny, dark brown and brittle when dry. DILL.—Micheli deſcribes the ſeeds as lying in the form of little ſtrings of beads coiled up within the folds of the plant, and only to be diſcovered in the microſcope. —It is ſuppoſed by the country people to be the remains of a meteor or falling ſtar. It has lately been aſſerted that this is of animal origin, but without ſufficient reaſon. After very ſevere froſt I have frequently found a gelatinous ſubſtance, which from a careleſs obſervation might paſs for a Tremella, but is the remains of frozen frogs. This ſubſtance does not ſhrivel up in dry weather as the Tremella does, nor is it plaited and waved; and generally ſome of the

the bones of the frogs may be found in it. After the ſevere winter of 1789, found great quantities of theſe on the edges, and in the water of ponds.

Star-ſlough.—Meadows and paſtures after rain, and gravel walks. [Frequently on gravel. Mr. WOODWARD.] A. Jan.—Dec.

TREMEL'LA *Sabi'næ.* Tooth-ſhaped, tawny, like *ſavine* velvet. DICKS. 14.

Mich. 88. 5, *cop. in Gled.* 1. *Clavaria f.* 6.

Growing in cluſters. Subſtance when freſh, jelly-like, ſtrap-ſhaped, lopped, more than an inch long. DICKS.—An inch high, orange-coloured, gelatinous, pulpy, in cluſters, ſimple, awl-ſhaped, but compreſſed, rather pyramidal, or with 2 horns; ſometimes with blunt teeth at the ſides. When dried leathery but brittle, opake, darker coloured, recovering its former appearance when ſoaked in water. *Seeds* an orange-coloured duſt which it throws out as it dries. JACQ. coll. ii. 174.

T. juniperina according to Web. 277, but it does not accord with the deſcription in the Fl. lapp. DICKS.

On living branches of Savine. April.

TREMEL'LA *utricula'ta.* Sitting, tubercled, jelly-like. Tubercles hollow. HUDS. 564. *bladder*

Dill. 10. 16.—*Mich.* 67. 2.

Spreading widely over rocks and ſtones under water, green, ſtiffiſh, brittle, ½ to 2 inches thick, rather ſhining, ſometimes ſmooth. *Tubercles* hollow within, from the ſize of a pea to that of a hazle nut. HUDS. *n.* 6.—Dull green, variouſly folded in the central part, dilating when immerſed in water into various hollow bags. DILL. 54.

On ſtones and rivulets about Pentir and Llanberris. DILL.—Mountainous rivulets in Weſtmoreland and Cumberland. Near Tideſwick, Derbyſhire. P. Jan.—Dec.

TREMEL'LA *verruco'ſa.* Tubercled, ſolid; wrinkled.— *warty*

(Dill. 10. 16, *and Mich.* 67. 2, *are T. utriculata.)*

Very tender, bright green. HUDS.—Jelly-like, dull green, forming a membrane compoſed of 2 lamina, variouſly contorted. Tubercles minute roundiſh grains, united together. GMELIN. fuc. 227.

On ſtones in clear brooks and ſprings. P. Jan.—Dec.

TREMEL'LA *viola'cea.* Sitting, jelly-like, wrinkled, violet-coloured, ſmooth underneath. RAY *in ſyn.* 22. *n.* 4. *violet*

Mich.

Mich. 66. 4. *Dickſ.*

Very much reſembling the tartar of red wine. RELH. *n.* 899.—Between leathery and gelatinous, variouſly wrinkled and contorted, flat and ſmooth underneath. Colour dull violet. RAY. ſyn. 22.—Stemleſs. Jelly-like but ſomewhat leathery, wrinkled, facing upwards, grey, woolly or ſpongy above, ſmooth and violet-coloured underneath. Helvella meſenterica. DICKS. p. 20.

Seems rather to belong to the *Helvella's*. RELH. *ſuppl.* i. 39.

Decayed branches of trees, A. Jan.—Dec.

1322. U L'V A. Laver.

Ess. CHAR. Fructifications in a ſemi-tranſparent membrane,—*with no appearance of a leaf.* LINN.

Turkey-feather U L'V A *pavo'nia.* Flat; kidney-ſhaped; ſitting; ſcored croſs-wiſe.—

H. ox. xv. 8. *row* 1. 7.—*Ellis. cor.* 33. c.

Edges of the leaf and of the bands fringed with very fine hairs. HUDS. *n.* 1.—Seldom 4 inches high; whitiſh dull green. Expanding upwards like a fan. Kidney-ſhaped. Surface barred with croſs lines filled with corpuſcles reſembling ſeeds. GMELIN. fuc. 170.

Rocks and ſtones in the ſea. P. Jan.—Dec.

oyſter UL'VA *Lactu'ca.* Hand-ſhaped; proliferous; membranaceous; ſegments narrower towards the baſe.—

Dill. 8. 1, *repreſenting it as it appears when viewed at ſome diſtance in the water.—Lob. obſ.* 647. 1, *repr. in ic.* ii. 247. 1, *Dod.* 477. 2, *Ger. em.* 1566. 2; *cop. in Park.* 1293. 9; *and imit. in J. B.* iii. 801.—*Matth.* 1136, *imit. with additions in Matth. a. C. B.* 795.—*Ger.* 1377.

Leaves incorporated, pale, hand-ſhaped, each ſegment growing out again into hand-ſhaped leaves; *ſegments* waved, inverſely egg-ſhaped, blunt, tranſparent. LINN.—A foot high or more; thin, pellucid, fine green, upright or reclining. DILL. 42.

Oyſter-green. Green Sloke. Scotland.

On rocks, ſtones, and ſhells in the ſea, and ſalt water ditches.

This is eſteemed by the inhabitants of the ſea-coaſt as a wholeſome and pleaſant food, being gently opening and antiſcorbutic. It is frequently ſent to London in earthen pots, and boiled up with vinegar and ſalt is eaten as a pickle.

β HUDS. LIGHTF. 971. Tender, ſlippery.

Dill.

Dill. 8. 2.

Freſh-water Laver.

Ditches and pools in the meadows about Newington, near London. DILL.

γ HUDS.

Ulva criſpa. LIGHTF. which ſee.

UL'VA *umbilica'lis.* Flat; circular; ſitting; target-ſhaped; leathery.— *navel*

Dill. 8. 3.—*Lob. ic.* ii. 247. 2, *cop. in J. B.* iii. 813. 4.

Somewhat hollow. Border indented; fixed only by a point in the middle, to the ſubſtance on which it grows; of a dark ſooty colour, ſhining. Uniform, membranaceous, pellucid, very tender, often gelatinous. *Leaf* flat, varying much in breadth. GMELIN. 214.—Circular, concave, fixed by the center as by a root, and firmly adhering to the rocks. From 4 to 12 inches broad; ſmooth, ſhining, often torn or perforated by the agitation of the ſea; dull brown, changing to dull purple when dry. DILL. 45.

On low ſea beaches, as near Sheerneſs. DILL.—On rocks and ſtones at low water. HUDS. 567. P. Jan.—Dec.

UL'VA *criſ'pa.* Tender, curled, growing on the ground. LIGHTF. 972. *criſped*

Dill. 10. 12.—*(Fl. dan.* 885. 2, *is T. inteſtinalis.)*

Expanded on, and ſlightly adhering to the earth, without any apparent roots, very thin, of a fine green. DILL. 52.

Ulva Lactuca γ. Hudſ. 567. Relh. n. 1034.

On walls and on the ground at the foot of walls, hedges, and houſes, in moiſt ſhady ſandy places. Jan.—Feb.

UL'VA *lacinia'ta.* Leaves flat, purple; the extremities widening, jagged, and waved. LIGHTF. 974. *laciniated*

Lightf. 33, *at p.* 974.

Seeds minute, numerous, like grains of a red powder, lodged in various parts of the ſubſtance. Greatly reſembles the Fucus laciniatus, but the fructifications are different. LIGHTF.—Is it not a variety of *U. umbilicalis?* HUDS. 652.

Sea ſhore, on the coaſt of Jura. Aug.

UL'VA *coccin'ea.* Flat, nearly circular, membranaceous, indented, ſcarlet. HUDS. 567. *ſcarlet*

Leaf ½ to 1 foot long, ſomewhat waved, ſemi-tranſparent, ſhining. *Seeds* numerous, ſmall, roundiſh, blackiſh purple. HUDS. *n.* 4.

Rocks and ſtones in the ſea, near Plymouth and Falmouth.

P. Jan.—Dec.

Riverweed UL'VA *confervoi'des.* Thread-ſhaped, jointed; joints alternately compreſſed. LINN.—Very much branched; joints oval. HUDS.

Dill. 6. 39.

From 2 to 4 inches long, irregularly divided and ſub-divided into branches, yellowiſh green. Branches knotted or jointed, hollow. DILL. 34.

Conferva tubuloſa. Hudſ. 600.

Stones, rocks, and Fuci. A. April—Oct.

brown UL'VA *latiſſima.* Oblong; flat, waved; membranaceous; green. LINN. — Somewhat ſword-ſhaped, brown. HUDS. 567.

A very long and very broad membrane. LINN. *ſuec. n.* 1156. Mr. WOODWARD.—*Leaf* 1 to 3 feet long, 2 to 8 inches wide, thin, ſhining. HUDS. 567.—Broad, thin, green, plaited and waved at the edge; 2 ſpans long and one broad. SCOP. n. 1432.—Of no regular ſhape, extremely thin. Mr. WOODWARD.

U. fuſca. Hudſ. 567.—*Fucus ſaccharinus* β. Lightf.

Rocks and ſtones in the ſea near Sheerneſs, in the Iſle of Shepey. [Yarmouth Haven. Mr. WOODWARD.] A. May—Oct.

leek UL'VA *lanceola'ta.* Egg-ſpear-ſhaped, flat.—

Dill. 9. 5.

Leaves a palm in length or more; very thin, ſmooth, pale green. DILL. 46.

On rocks near Llanfaethly in the Iſle of Man. DILL.

P. Jan.—Dec.

horned UL'VA *cornu'ta.* Stiffiſh, horned, growing on the ground. LIGHTF. 972.

Dill. 10. 13.

Three or 4 inches long, irregularly divided into horn-ſhaped branches; ſurface various, furrowed and ſcored, otherwiſe ſmooth, flatted, pale green. DILL. 52.—Is it not a variety of *Jungermannia pinguis?* HUDS. 652.

On the ground in Enfield Chace, near Southgate. DILL.—On the ground in a moiſt ſandy ſoil near Leith. Mr. YALDEN *in Fl. Scot.*

March, April.

ribbon UL'VA *Lin'za.* Leaf oblong; bliſtered.—

Fl. dan. 889.—*Dill.* 9. 6.

Bright green, thin, the folded edge even, the open edges indented and curled. DILL. *in R. ſyn.* 62, *n.* 3 *and muſc.* 46.—Five or 6 inches long, about an inch wide, doubled lengthways. LIGHTF. 973.

On

On large ſtones and rocks in the ſea; and in ditches near Sheerneſs.
P. Jan.—Dec.

UL'VA *monta'na*. Flat, ſcarlet, growing on the ground, blood-coloured. LIGHTF. 973. *mountain*

Leaves without viſible roots, many together ſupporting each other, about 2 or 3 inches high and as much in breadth, variouſly ſinuated, leathery, but friable. LIGHTF. 973.

Among graſs and moſs on the ſides of mountains. Aug.

UL'VA *dichot'oma*. Flat, forked, green. HUDS. *ed.* i. 476. *ed.* ii. 568. LIGHTF. 975. *dichotomous*

Lightf. 34, *at p.* 975.

Leaf about 3 inches long, flat, greatly dilating upwards and forking into branches. *Branches* an eighth or a tenth of an inch broad; cloven at the ends. Colour pale green, ſubſtance membranaceous, very thin, pellucid, in the microſcope reticulated. *Seeds* ſmall, brown, ſcattered through the ſubſtance of the leaf. LIGHTF.

Rocks and ſtones on the ſea ſhore at low water. Iſle of Walney, Devonſhire. Cornwall and Suſſex. Baſons of water among the ſea rocks, about Leith and New Haven. P. Jan.—Dec.

UL'VA *inteſtina'lis*. Tubular; ſimple, LINN.— membranaceous, green. HUDS. 568. *gut*

Dill. 9. 7.—*Buxb.* v. 23. 1.

Varying greatly in ſize; ſimple or branched, from the thickneſs of a quill to that of a walking-ſtick, and an ell or two in length; hollow; very unequal on the ſurface, yellowiſh when young, changing to a fine green. DILL. 47.

Moſtly in ditches near the ſea, but ſometimes in freſh water ditches. A. March—Oct.

UL'VA *compreſſa*. Tubular; branched; compreſſed. — *flat*

Dill. 9. 8; *and* 10. 8.—*Pet.* 9. 6, *allowed by Dill. to reſemble it, but he aſſerts it to be a different plant, though it certainly correſponds with the plant when not branched, as Dillenius himſelf allows it ſometimes to be.*

Pretty ſolid, unequal, winding, with cells of unequal dimenſions communicating one with another. *Branches* ſcattered, but little branched. LINN. *ſuec. n.* 1155.—Tubular, ſometimes branched, compreſſed, ſtraight or bent, ſmooth, even. DILL. 49.

Rocks, ſtones in the ſea, and in ſalt water ditches.
A. Jan.—Dec.

UL'VA

purplish UL'VA *purpuraſ'cens.* Tubular, very much branched; nearly round. Branches oppoſite, pointed. Huds. 569.

Stem 6 inches high, of the thickneſs of packthread, purpliſh, ſemi-tranſparent. *Branches* oppoſite, moſtly pointing two ways, round, pointed. Huds. *n.* 11.

Near Chriſt Church, Hampſhire. Huds. A. March—Oct.

pipe UL'VA *fiſtuloſa.* Jelly-like, tubular, uniform, ſimple. Huds. 569.

Root creeping. *Leaves* numerous, pipe-like, cloſed at the end, browniſh, 3 inches long, of the thickneſs of ſhop packthread. *Seeds* numerous, ſmall, round, brown. Huds. *n.* 13.

Stones in the ſea, and on Fucuſes. A. May—Sept.

diaphanous UL'VA *diaph'ana.* Jelly-like, pale, diaphanous, nearly round, branched. Branches very ſhort, ſomewhat pointed. Huds. 570.

Ger. em. 1570. 10, *cop. in Park.* 1304. 4.—*Ellis corr.* 32. *f. d.*

Leaf ſolid. *Branches* round. *Seeds* very numerous, minute, brown, 4 to 16 inches long, from the thickneſs of a finger to that of the wriſt. Huds. *n.* 14.—Varies much in its figure; cylindrical or compreſſed, even or knotted, much or little branched, thicker than a thumb or thinner than a little finger, from 4 to 12 inches high. Even, pelluçid, pale yellowiſh white. Ray *Syn.* 49. *n.* 42.

F. gelatinoſus. Hudſ. ed. i. 570.

Sea-ſhore, near Sheerneſs. P. Jan.—Dec.

yellowiſh UL'VA *flaveſ'cens.* Jelly-like, nearly round, ſomewhat branched, yellowiſh. Branches very ſhort, blunt. Huds. 570.

Leaf ſolid, round and ſometimes flatted and widening, the edge ſometimes indented, toothed, of a pale yellowiſh hue. *Seeds* numerous, ſmall, round, brown, 3 to 4 inches long, about the thickneſs of the little finger. Is it not a variety of *U. diaphana?* Huds. *n.* 15.

Rocks and ſtones in the ſea. Iſles of Angleſea and Walney. P. Jan.—Dec.

filiform UL'VA *filifor'mis.* Jelly-like, thread-ſhaped, very much branched, purpliſh. Branches ſcattered, diſtant, very long. Huds. 570.

Leaf 6 inches long, nearly of the thickneſs of ſhop packthread. *Branches* blunt. Huds. *n.* 16.

Rocks and ſtones in the ſea. Near Chriſt-church, Hampſhire. A. April—Sept.

UL'VA

UL'VA *capilla'ris.* Jelly-like, thread-ſhaped, very much branched, pale. Branches alternate, hair-like, upright. HUDS. 571. *capillary*

Leaf 4 inches long, ſolid. HUDS. *n.* 17.

Rocks and ſtones in the ſea, near Chriſt-church, and elſewhere in Hampſhire. Near Margate. A. May—Oct.

UL'VA *ru'bens.* Jelly-like, thread-ſhaped, very much branched, reddiſh. Branches ſcattered, horizontal, blunt. HUDS. 571. *reddiſh*

Leaf 4 inches long, nearly the thickneſs of ſhop packthread. *Branches* ſhort. HUDS. *n.* 18.

Rocks and ſtones in Portland iſland, and near Pool, Dorſetſhire. A. May—Oct.

UL'VA *ru'bra.* Jelly-like, thread-ſhaped, forked, red red. HUDS. 571. *red*

Leaf 1½ inch long, blunt. *Branches* long. HUDS. *n.* 19.

Stones in the ſea, near Chriſt-church, Hampſhire. A. May—Sept.

UL'VA *plumo'ſa.* Jelly-like, thread-ſhaped, branched. Branches ſtrap-ſpear-ſhaped, winged, ſhining. HUDS. 571. *feathered*

Stem a finger's length, flatted, of a browniſh reddiſh hue. *Branches* flatted, cloſely winged, reddiſh green, wings jelly-like, hair-like, very green. HUDS. *n.* 20.

Rocks and ſtones in the ſea, near Exmouth, Devonſhire. P. April—Oct.

UL'VA *incraſſa'ta.* Jelly-like, flat, indented-toothed, green, the edge thicker. HUDS. 572. *thick*

Dill. 10. 10.—*Vaill.* 10. 3.

Gelatinous, ſlippery, green; grows in the water and on the edges of ſmall ditches. Crowded, irregularly divided, ſwollen, but not round, the ſegments being flattiſh. DILL. 51.

In the ditches of a field near Chicheſter, Suſſex, without the Eaſt gate. DILL.—Selſey iſland, Suſſex, between Greenwich and Woolwich, near Doncaſter, about Spalding and elſewhere in Lincolnſhire. HUDS.—On the ſtalks of Horſetail in a ditch on Sheep's Green. RELH. *n.* 1087. A. Mar.—Oct.

UL'VA *pruniformis.* Nearly globular, ſolitary, ſucculent within.— *plumb*

Wieg. obſ. 2. 4.—(*Gunn.* ii. 2. 6 *and* 7; 9. 4 *and* 5, *Wiggers at n.* 1031, *aſſures us are F. loreus in its infant ſtate. The root of the fig. of F. loreus in Dod.* 479, *is exactly ſimilar to Gunn.* 9. 4 *and* 5.)

Of the ſize and ſhape of a plumb, ſometimes rather flatted on one or other of the ſides; the rind of the thickneſs of the rind of a plumb; within full of a viſcid pulp containing either in the middle or a little on one ſide ſome grains juſt viſible. Moſtly looſe, but ſometimes adhering to jointed Conferva's. LINN. *ſuec. n.* 1159.—Of the ſize of a ſloe or bullace. HUDS. 572.

Ditches and pools, and the alpine lakes of Weſtmorl. A. May—Oct.

pea U L'V A *pi'ſifor'mis.* Globular, ſolitary, ſpongy, browniſh. HUDS. 572.

Leaf from the ſize of rape ſeed to that of a pea, ſpherical, with an interwoven net work, pulpy, browniſh green. HUDS. *n.* 23.

Ditches between Greenwich and Woolwich. A. March—Aug.

1321. FU'CUS.

Barren Flowers?

LITTLE BLADDERS ſmooth, hollow; interſperſed within with ſoft hairs interwoven together.

Fertile Flowers?

LITTLE BLADDERS ſmooth; full of a jelly-like pulp; ſprinkled with grains buried in the ſubſtance of the bladders; ſomewhat prominent at the points.

SEEDS ſolitary.

Ess. CHAR. *Barren Flowers. Little bladders with ſoft hairs interwoven together.*

Fertile Flowers. Little bladders ſprinkled with grains buried in the leaf, the points ſomewhat prominent. Seeds ſolitary.

OBS. See plate 1. fig. *G.* All the ſpecies may be uſed to manure land, or burnt to make kelp, which is an impure foſſil alkali.

* *Leaves diſtinct.*

gulf FU'CUS *na'tans.* Stem thread-ſhaped, very much branched. Leaves ſpear-ſhaped, ſerrated. Fructifications globular, on fruit-ſtalks.—

Pet. fil. 19, 11, 10, 12.—*Barr.* 1122, *ſerratures not ſufficiently expreſſed.*—*Lob. obſ.* 653. 3, *repr. in ic.* ii. 256. 2, *Ger. em.* 1615.

1615. 2, *and a portion of a branch cop. in Park.* 1281, *right hand figure.*

Fructifications ſometimes ending in an awn; in ſome plants very ſhort pods compoſed of minute warts are found in the boſom of the leaves. LINN.—*Fructifications* like juniper berries, but always hollow. *Leaves* ſitting, oblong-ſpear-ſhaped, varying in breadth, ſerratures alternate. GMEL. fuc. 93.

Sea ſhores. Iſle of Shepey: Northumberland; and thrown on the ſhore near Falmouth. P. Jan.—Dec.

FU'CUS *ova'lis*. GMEL. *fuc.* 162.—Compreſſed, branched. Leaves oval, very entire. HUDS. 573.—Stem thread-ſhaped, branched. Branches forked. Leaves oblong, round, on leaf-ſtalks. LIGHTF. 958. *ovate*

Gmel. fuc. 18. 4.

Soft, but cartilaginous, pellucid, white, about 2 inches high. *Stems* numerous, full 2 inches high, cylindrical, branched on every ſide. *Branches* like the ſtems. *Leaves* ſomewhat winged, leafits alternate. *Fructifications* terminating, ſwelling with ſeed-bearing granules. GMELIN fuc. 162.

F. ovatus. Hudſ. ed. i. 468.—*F. vermicularis.* Lightf. 958.

Sea-rocks and ſtones near Scarborough, Yorkſhire, and Chriſt Church, Hampſhire. HUDS.—In baſons of water on the ſea-rocks on the little iſles of Jura. LIGHTF. A. May—Oct.

FU'CUS *ſanguin'eus*. Leaves membranaceous; egg-oblong; very entire; on leaf-ſtalks. Stem round, branched. LINN.—Leaves waved. HUDS. 573. *dock-leaved*

Gmel. fuc. 24. 2.—*Fl. dan.* 349.—*Giſ.* i. 24.—*H. ox.* xv. 8. *row* 1. 6.

Reſembling the leaves of the *Rumex ſanguineus*, in ſize as well as form. *R. ſyn.* 49.—*Stem* very ſhort, ending in oblong-ſpear-ſhaped leaves, very entire, waved at the edge, rounded at the end, furniſhed with a mid-rib which ſends off lateral alternate veins; from 3 inches to a foot in length and from ¼ to 2 inches in breadth; pellucid, pale red purple. GMELIN fuc. 185.—*Fructifications* roundiſh, on fruit-ſtalks, blackiſh red, on the ſides of the branches and ribs, of the ſize of rape ſeed. HUDS. *n.* 3.

Rocks and ſtones in the ſea. Falmouth. P. Jan.—Dec.

FU'CUS *ru'bens*. Leaves membranaceous, oblong, waved, indented. Stalk round, branched. LINN.—Leaves indented and toothed. HUDS. 573. *red*

Fl. dan. 652.—*Gmel. fuc.* 24. 1, *ſimilar to the lowermoſt figure in Fl. dan.*

Subſtance membranaceous; half a foot over; purple, dull green with age, ſometimes pale red. *Stem* very ſhort, branched, ſoon changing into leaf-ſtalks. *Leaf* winged, leafits exactly egg-ſhaped, oppoſite, an odd one at the end; waved at the edge; teeth few, pointed, diſtant. GMELIN fuc. 184.

Sea rocks and ſtones. P. Jan.—Dec.

fringed FU'CUS *fimbria'tus*. Stem compreſſed, nearly ſimple. Leaves pointing from two oppoſite lines, ſtrap-ſhaped, fringed. Fructifications along the edge, oblong. HUDS. 574.

Gmel. fuc. 20. 2.

A foot high, or more; membranaceous, diaphanous, fine red, paler by places. *Leaf* winged. *Leafits* on very ſhort leaf-ſtalks, lower ones the ſhorteſt, upper ones as much as 4 inches long; oblong-ſpear-ſhaped, ſometimes proliferous, alternate or oppoſite, edges fringed with wedge-ſhaped ſubſtances. GMELIN fuc. 173. Who obſerves that it is a native of the Indian ocean, ſo that ſome doubt remains from that and other circumſtances whether the plant of Mr. Hudſon be really this of Gmelin.

On the ſea ſhore in Portland Iſland, but rare. P. Jan.—Dec.

** *Leaf united, branching.*

podded FU'CUS *ſiliquo'ſus*. Leaf compreſſed; branched. Leafits pointing two ways; alternate; very entire. Fructifications on fruit-ſtalks; oblong; ſharp-pointed.—

Gmel. fuc. 2. *B.*—*Fl. dan.* 106.—*Giſeke* 75.—*Dod.* 480. 2, *repr. in Ger. em.* 1569. 7, *and a branch cop. in Park.* 1293. 6, *c. of the three figures that on the right hand.*

Thread-ſhaped, compreſſed, zigzag, each ſide toothed, with rudiments of leaf-ſtalks or fructifications. *Fructifications* ſpindle-ſhaped, beaked at the end, alternate, on fruit-ſtalks. *Leaves* ſpear-ſhaped, ſmaller than the pods. LINN.—*Pods* very numerous, oblong-egg-ſhaped, ſcored acroſs, filled with ſlime containing numerous granules. *Subſtance* leathery, 4 feet long, dark olive, black when dried. GMELIN fuc. 81.

Sea rocks and ſtones. P. Jan.—Dec.

Cromer FU'CUS *ſubfuſ'cus*. Very much branched. Branches thread-ſhaped, ſcattered. Leaves awl-ſhaped, nearly alternate. Fructifications in panicles. Capſules with 8 ſeeds. Mr. WOODWARD.

Tranſ.

Tranſ. Linn. Soc. t. 12. *at p.* 134.

About 6 inches high, the ſize of ſmall twine. *Branches* numerous, irregular, crowded upwards, nearly as large as the ſtem. *Capſules* in the boſom of the leaves, on ſhort fruit-ſtalks, about the ſize of a ſmall pin's head; pale, ſemi-tranſparent. Mr. WOODWARD.

Cromer on the coaſt of Norfolk. Mr. WIGG. A. Winter.

FU'CUS *concatena'tus?* Leaf thread-ſhaped, very much branched. Little branches forked. Bladders necklace-ſhaped, diſtant, in the ſubſtance of the leaf. Leaves awl-ſhaped.— *chain*

(Lob. obſ. 652, *repr. in ic.* ii. 254. 2, *and cop. in Park.* 1290, *is referred to by Mr. Hudſon, but belong to Gmelin t.* 2. *A.* 2, *which is F. fæniculaceus.)—(Fl. dan.* 591, *is F. granulatus.)*

Thread-ſhaped; branches very numerous, oppoſite or alternate, often ending in forks. *Bladders* egg-ſhaped, in the ſubſtance of the ſtem and the branches, diſtant, an awl-ſhaped leaf at the ſide of each. LINN.—Six or 8 inches long, cartilaginous, tawny olive. *Bladders* oblong, placed at a little diſtance, 3 or 4 one above another, each with one or two little thorns. When in fruit, the ends of the branches alſo ſwell, and are covered with numerous wart-like ſubſtances, each with a puncture in the center and within full of ſeeds. LIGHTF. 924.

Sea rocks and ſtones, Suſſex and Cornwall. HUDS.—About Leith and New Haven. Mr. YALDEN *in Fl. ſcot.* 923. P. Jan.—Dec.

FU'CUS *ſeta'ceus.* Leaf thread-ſhaped, very much branched. Branches alternate, two-rowed. Bladders elliptical, in the ſubſtance of the leaf. Leaves briſtle-ſhaped. HUDS. 575. *ſetaceous*

Gmel. fuc. 18. 2 ?

Branches nearly upright, zigzag. *Leaſits* alternate, upright, tiled towards the ends of the branches. *Veſicles* growing in the ſubſtance of the ſtem and branches, about the ſize of a vetch. HUDS. *n.* 8. —Gmelin deſcribes his plant thus. Subſtance cartilaginous; 6 inches high, browniſh green. *Stem* flat, twiſted at bottom, ¼ of an inch over, ſhort. *Branches* numerous, alternate, divided and ſubdivided in various directions and ultimately ending in a fork. Amongſt the ſmaller branches and on the ſtem, are numerous teeth, ſimple or forked, various in their ſize, ſo as to give a fringed appearance to the plant. The ſwelling of theſe teeth leads one to think that they perform the office of fructification. GMELIN fuc. 160.—

From this deſcription I think it is evident that Mr. Hudſon's muſt be a different plant.

Rocks and ſtones in the ſea, but rather ſcarce. P. Jan.—Dec.

fennel-leaved FU'CUS *fæniculaceus*. Leaf thread-ſhaped; very much branched: bladders egg-ſhaped; terminated with leafits divided into many blunt ſegments bearing fruit at the ends?—

Gmel. fuc. 2. *A.* 2.—*Fl. dan.* 709.—*Lob. obſ.* 652, *repr. in ic.* ii. 254. 2, *repr. in Ger. em.* 1573. 7, *and cop. in Park.* 1290. 6, *and J. B.* iii. 798. 1, *and Ger.* 1380. 6.—*Geſn. ap. Cord. a Schmid. ic. lign.* 1. 2.

About the length of *Lichen Uſnea*. Little branches very numerous; hair-like; ending in a bladder, often proliferous; the laſt of which terminates in ſeveral little leaves with tubercles at the ends. LINN. —Rather woody, 4 to 6 inches high; growing in a compact bundle; livid, yellowiſh; black when dried. *Branches* numerous, divided and ſub-divided, their extremities forked. Lower branches always rounded, upper ones ſometimes flatted, and ending in long pods with a fork at the extremity. GMELIN fuc. 86.

Rocks and ſtones in the ſea on the coaſt of Devonſhire.

P. Jan.—Dec.

jointed FU'CUS *abrotaniſo'lius*. Leaf thread-ſhaped; compreſſed; doubly winged; the ends bladder-like; dilated; terminated with fructifications tubercled on one ſide.—

Gmel. 17. 1.

Varying in colour, red or yelloviſh, or greeniſh. Stem cylindrical; often 2 feet high, gelatinous, doubly winged, leafits cut into many winged clefts, the ſegments thickiſh, ſtrap-ſhaped, blunt, often with fructifications at the end. GMELIN fuc. 157.—Such is the deſcription given by Gmelin of his plant, which is a native of the Cape of Good Hope. Botaniſts who viſit the Southern coaſts of this iſland will do well to determine whether Mr. Hudſon's plant be not a different ſpecies. Linnæus ſays that his *F. abrotaniſolius* is a native of the Britiſh ſeas. Sp. pl. 1629.

Sea rocks and ſtones, Suſſex and Hampſhire. P. Jan.—Dec.

fibrous FU'CUS *fibro'ſus*. Leaf thread-ſhaped, very much branched. Bladders roundiſh, growing in the ſubſtance of the leaf. Leafits thread-ſhaped and ſtrap-ſhaped. HUDS. 575.

H. ox. xv. 8. *row the laſt*, 17.

Four to 6 inches high. *Stems* thick, round. *Branches* numerous, in no regular order, divided and ſub-divided into capillary fibres; extremities

extremities cylindrical or compreſſed, frequently bearing veſicles. Ray ſyn. 49.

Sea ſhore. Yorkſhire, Lancaſhire, and Hampſhire. P. Jan.—Dec.

FU'CUS *tamariſcifo'lius*. Branches alternate. Bladders roundiſh, growing in the leaf. Leaves in pairs, with tubercles at the baſe. Huds. 576. *tamariſk*

Gmel. fuc. 11. 2.—*B. hiſt.* iii. 799.

Five or 6 inches high, or more, riſing from a thick leathery baſe, roundiſh in form, apparently deſtitute of fibres and flat on the under ſurface, which by means of a gluten peculiar to ſea plants attaches itſelf ſtrongly to the ſubmarine rocks, and is rarely to be ſeparated from them, as the plant generally breaks aſunder above the root, when pulled. This Root, or baſe, covers an area of an inch or more in diameter. *Stem* at bottom reſembles in miniature the trunk of an oak channelled through age, and at an inch or leſs from the baſe is generally ſurrounded with ſcaly tubercles, from whence the primary branches take their origin. Thoſe on the lower ſtem are frequently ſtrap-ſhaped and tranſparent, 4 times the length of the upper leaves. At the baſe of many of the ſhort awl-ſhaped leaves, on their outer ſide, is a cavity which in its recent ſtate reſembles the ſaucers of thoſe Lichens that have contracted diſks, and thin, ſmooth, prominent borders. When under water in the cavities of the rocks, this plant reflects from its extreme branches lively cærulean tints, which frequently aſſiſt in the diſcovery of it. When freſh from the ſea it is of a browniſh olive colour, but moſt of the upper branches are tinged with a lighter muddy green, which in its dried ſtate turns to a duſt colour, when the remainder of the plant approaches to a black. Major Velley.

Fucus erica marina. Gmelin, p. 128; not Fucus abies marina. Gmelin, p. 83, as in Fl. angl.

Sea rocks and ſtones near Marketjeu, and elſewhere in Cornwall, Devonſhire, and Yorkſhire. P. Jan.—Dec.

FU'CUS *ſelaginoi'des*. Leaf thread-ſhaped, very much branched. Branches forked. Leaves awl-ſhaped, alternate, with bladders at the baſe.— *cup-leafed*

Gmel. fuc. 2. *A.* 1.—*Park.* 1290, *too thick and tree-like.* (*Not Bauh. hiſt.* iii. 798.)

Stem thread-ſhaped, zigzag, very much branched. *Branches* tiled. *Leaves* awl-ſhaped, very ſhort, egg-ſhaped, and hollow at the baſe. Linn.—The branches produce little foot-ſtalks, each of which ſupports an oblong veſſel; out of this veſſel another foot-ſtalk riſes, bearing another veſſel, ſo that the branches are compoſed of a ſeries of theſe veſſels one ſpringing out of another. Gmelin fuc. 84.—

Mr.

Mr. Hudſon quotes this as a ſynonym to his F. tamariſcifolius, but they are evidently diſtinct plants, the latter not having the bladder-like hollows at the baſe of the leaves which are ſo characteriſtic in this.

In the Norwegian Seas. LINN.—Am not certain that it has yet been found on the Britiſh coaſt.

articulated FU'CUS *articula'tus*. Leaf jointed, very much branched. Joints egg-cylindrical, tubular. Branches oppoſite and in whorls. LIGHTF. 959.—Tubular, jointed, very much branched. Branches oppoſite, forked. HUDS. *ed.* i. 476. *ed.* ii. 569.

α HUDS.—*H. ox.* xv. 8. *row* 2. 14.—*Buxb.* v. 22?

One to 3 inches high, pale red purple. *Seeds* in the terminating joints and in others growing in whorls at the ends of the branches. LIGHTFOOT.

Ulva articulata. HUDS.

Rocks and ſtones in the ſea, about low water mark, Cornwall, Devonſhire, Dorſetſhire, Suſſex. HUDS.—Jura Cranſay Skye, &c. LIGHTF.

A. March—Nov. HUDS.—Auguſt. LIGHTF.

β *repens*. LIGHTF.—Leaves forming a tuft, creeping, branched, jointed. Joints oblong, flat. LIGHTF. 961.

Dill. 10. 9.—*Dod.* 476. 2, *repr. in Ger. em.* 1574. 10, *growing on a large Fucus*

Stems narrow, matted together, ſet with narrow ſtraps. *Shoots* numerous, crowded, ½ an inch high, broadeſt upwards, variouſly and irregularly divided into ſegments, and ſometimes appearing jointed, flat, (not hollow,) tender, dull purple below, dirty green above. DILL. 51.—*Seeds* in the ſubſtance of ſome of the extreme joints, like grains of fine purple powder. LIGHTF.

Ulva articulata β HUDS.

Sea rocks waſhed by the waves, in Preſtholm Iſland, DILL.—and near Muſſelburgh. LIGHTF. Auguſt.

whorled FU'CUS *verticilla'tus*. Stems obſcurely jointed. Branches in whorls, awl-ſhaped, briſtle-ſtrap-ſhaped. LIGHTF. 962.

Lightf. 31. *at p.* 962.

Pale or whitiſh green, membranaceous. *Stems* about 5 inches high, about the ſize of a ſmall gooſe quill, ſo obſcurely jointed as to be almoſt cylindrical. *Branches* 3 to 5 in a whorl, an inch or more long, gradually ſhorter towards the end of the ſtem, beſet with briſtle-

briſtle-ſhaped leaves alternate or without order. *Fructifications* red, viſible with a microſcope at the ends of the branches. LIGHTF. *n.* 41.
On the rocks of the little iſles of Jura. LIGHTF. July.

*** *Leaf flat, Stem forming a mid-rib through its whole length.*

FU'CUS *ſerra'tus*. Leaf flat, forked, with a rib, ſerrated-toothed. Fructifications at the ends of the branches, tubercled. — *ſerrated*

H. ox. xv. 9. 1.—*Baſt.* ii. 11. 3.

The rib formed by a longitudinal nerve. LINN.—Two feet high or more, but it varies much in ſize. Subſtance hard, leathery. Colour green to yelloviſh, or olive, blackiſh when dried, but ſtill in ſome meaſure pellucid. Stem flat, pervading the whole length of the leaves, which are oblong, flat, edges ſet with teeth of various ſizes. It has no air veſicles, but little pencils are often found on both ſurfaces, and *Tubercles* bearing ſeeds, filled with woolly matter, in the ſubſtance of the leaf, either ſcattered, or more collected at the extremities. GMELIN fuc. 57.

Sea rocks and ſtones. P. Jan.—Dec.

β HUDS. 576.—A foot long, at leaſt an inch broad. Edge unequal, leſs remarkably ſerrated. DOODY *in R. ſyn.* 42.

FU'CUS *veſiculo'ſus*. Leaf flat, forked, with a rib, very entire, with bladders at the diviſions of the leaf, in pairs; thoſe at the ends of the branches tubercled.— *oak-leaved*

Baſt. ii. 11. 2.—*Geſn. ap. Cord. a Schmid. ic. lign.* 1. 6.—*Cluſ.* i. 21, *repr. in Lob. ic.* ii. 225. 1, *Ger. em.* 1567. 4; *and cop. in Park.* 1293. 11; *and alſo in Ger.* 1378. 3.

The bladders at the diviſions of the leaf in pairs, the others ſolitary.—Turns red in decay. The bladders in the ſubſtance of the leaf contain the fructifications. LINN. *ſuec. n.* 1145.—Both this and the *F. ſerratus* when fully grown, are forced continually by the flux of the tides againſt the rocks, and by the conſtant colliſion loſe the membranaceous part of their lower leaves, while the main ſtems, which are exceedingly tough, acquire a ſmooth roundiſh form, and the forked ribs which pervade the upper leaves wear away to ſharp thorny points. In this ſtate both theſe plants have a ſhrub-like appearance, whilſt the ſhort leaves and inflated veſſels at the ſummit of the branches are frequently entire. If the *F. veſiculoſus* receives an injury or fracture, in any part of the leaf, provided it be in a healthy vegetating ſtate, it conſtantly throws out abundance of young leaves from the injured part. If even a ſmall aperture be made in the middle of it, a new leaf on either ſide will be found to ſhoot out. I have rarely diſcovered this proliferous tendency in the *F. ſerratus*. Major VELLEY, Sea

Sea rocks and ſtones. P. Jan.—Dec.

β Leaf flat; forked; very entire. Branches ſtraddling; with bladders at the diviſion of the leaf in pairs. LINN.

H. ox. xv. 8. *row the laſt*, 10.

γ HUDS. 577.—*H. ox.* xv. 8. *row the laſt*, 5. *and* i. 1. 4. *A. B.*

F. divaricatus. Hudſ. ed. i. 466.

Shore about Leith and New Haven. Mr. YALDEN *in ſl. ſcot.* July, Aug.

ſpiral FU'CUS *ſpira'lis.* Leaf flat; forked; very entire; dotted; ſtrap-ſhaped and channelled towards the baſe. Fructifications in pairs; tubercled.—

Fl. dan. 286.—*Baſt.* ii. 11. 1.—*Dod.* 479. 1, *repr. in Ger. em.* 1567. 4, *on the right hand ſide.*—*Geſn. ap. Cord. Schmid. ic. lign.* 1. 5.—*(H. ox.* xv. 8. *row the laſt*, 10, *is F. veſiculoſus.* β.)

Twiſted ſpirally whilſt growing; membranaceous, flat, narrower below, channelled. *Fructifications* terminating, oblong, thickiſh, in pairs, on fruit-ſtalks. LINN.—A foot or more in length. RAY ſyn. 41.

Stones and rocks in the ſea, Kent, Suſſex, and Eſſex. P. Jan.—Dec.

twiſted FU'CUS *volu'bilis.* Leaf flat, ſpiral, perforated, waved at the edge and toothed.—

Barr. 1303.—*Bocc. ic.* 38. 2.

Thin, membranaceous, twiſted like a ſcrew, 2 or 3 inches long, the ends finely cut or fringed, ſimple or branched, blackiſh brown. BOCCONE. 69.

Rocks and ſtones in the Firth of Cheſter. *R. ſyn.* P. Jan.—Dec.

wiry-ſtalked FU'CUS *diſ'tichus.* Leaf flat, forked, very entire. Fructifications tubercled, ſharp-pointed.—

Gmel. fuc. 1. *A.* 1.—*Fl. dan.* 351, *is cited by Linn. but Lightf. ſeems to have good reaſon for doubting, as the mid-rib is not expreſſed. It has the appearance of being convex on the upper ſide as in F. canaliculatus.*—*(Dod.* 479. 2, *is F. loreus.)*

Between griſtly and leathery, 6 inches high, olive green, changing to black when dry. *Root* circular, more than ½ inch diameter, cemented to ſtones. *Stems* thick, flat, branched. *Branches* uniform, forked, pervaded by a mid-rib, leaf narrow. *Fructifications* on the ends of the branches, containing granules. GMELIN fuc. 72.—Differs from the *F. canaliculatus* in the leaf not being at all channelled, and the pod-like veſicles being long and tapering to a point. KŒNIG.—With a mid-rib. The texture herbaceous. LINN.

F. linearis. Hudſ. 578.

Sea rocks and ſtones. P. Jan.—Dec.

FU'CUS

FU'CUS *ala'tus*. Leaves membranaceous; ſomewhat forked; ribbed; ſegments alternate, running down; cloven. LINN.—Leaves very entire, coloured. HUDS. *ed.* i. 473. *ed.* ii. 578. *winged*

Fl. dan. 352.—*Gmel. fuc.* 25. 1; 2, *in its younger ſtate*; 3, *a variety with broader leaves.*

Leaves branched, purple, diaphanous, ſtrap-ſhaped, ends ſomewhat toothed, mid-rib rather thick. LINN.—Three inches long or more, membranaceous, thin.—*Stem* flatted, 1 line broad, very much branched. *Branches* alternate, edged with the thin leafy ſubſtance. GMELIN fuc. 187.—When the leafy membranaceous ſubſtance which edges the rib of the branches decays or rubs off, the plant aſſumes a very different appearance, ſeeming then to be compoſed of thread-ſhaped branches.

Sea rocks and ſtones. P. May—Oct.

FU'CUS *eſculen'tus*. Leaf ſimple, undivided, ſword-ſhaped. Stem 4-cornered, winged, running through the whole length of the leaf. LINN. — Bordered. HUDS. 578. *eatable*

Fl. dan. 417.—*Lightf.* 28, *at p.* 938.—*Gmel.* 29. 1, *wants the wings at the top of the ſtem.*

Stem thick, broad, 4-ſided, winged at the baſe with flat ſword-ſhaped leafits; *leaf* very large, penetrated through its whole length by the ſtem which is viſible on both its ſurfaces. In theſe circumſtances it differs from the *F. ſaccharinus*. LINN.—Sometimes from 5 to 10 yards long, or more, olive coloured. *Stem* ſolid, round, upright, pervading the whole length of the leaf. *Leaf* extremely long, rounded at the baſe, narrower towards the end, diaphanous, wonderfully plaited and curled. GMELIN fuc. 200. — In Hudſon's Synonym for *Fl. dan.* read *Gmelin.*

Sea rocks and ſtones; common. Cumberland and Scotland. P. Jan.—Dec.

**** *Leaf flat, without a mid-rib.*

FU'CUS *ſacchari'nus*. Leaf moſtly ſimple; ſword-ſhaped; leaf-ſtalk cylindrical; very ſhort. LINN.—Leaf flat, ribleſs, ſimple. HUDS. 578. *ſweet*

Gunn. ii. 7. 2.—*Fl. dan.* 416.—*Gmel. fuc.* 27 *and* 28.—*Ger. em.* 1570. 9. 1, *cop. in Park.* 1292. 5. 1.

Oval or oblong, leathery, often 4 feet long and 2 broad, waved, narrow at the baſe, adhering to ſtones as if by means of fingers. LINN. *ſuec. n.* 1151.—*Stem* from 2 to 12 inches high. *Leaf* ſingle, tapering at each end, flat, ſometimes 2 yards long, wrinkled, winding,

ing, the wrinkles containing a jelly-like mucus in which the fructiferous granules are lodged. GMELIN fuc. 195.

Rocks and ſtones in the ſea. P. Jan.—Dec.

Waſhed in ſpring water and then hung up in a warm place, a ſubſtance like ſugar exſudes from it. Some people eat it freſh out of the ſea. Smaller leaves and cluſters eaten by the poor as *F. palmatus*. RUTTY.

β HUDS.—Leaves very long, very broad, and thick. *R. ſyn.* 39. *n.* 1. *par.* 2.

On ſtones near Sheerneſs.

γ HUDS.—Leaves very long, very broad, curled at the edge. *R. ſyn. ib. par.* 3.

δ HUDS.—*F. phyllitidis folio.* LLWD *in R. ſyn.* 40. *par.* 2.

Mor-dowys. Welſh.

Angleſea, where the people eat the ſmall leaves and cluſters.

fingered FU'CUS *digita'tus*. Leaf hand-ſhaped; leafits ſword-ſhaped; leaf-ſtalk cylindrical. LINN.—Leaf flat, ribleſs; ſegments ſword-ſhaped. HUDS. 579.

Fl. dan. 392.—*Gunn.* i. 3.—*Ger. em.* 1570. 9. 2, *cop. in Park.* 1292. 5. 2.—*(Gmel. fuc.* 30, *is F. polychides.)*

Stem as thick as a walking-ſtick. LINN.—*Stem* cylindrical, compreſſed, 1 to 2 yards high. GUNNER. Nor. i. 34.—*Leaves* red, or white, near a foot long, an inch or more in breadth, ſometimes cloven, many together, fixed by a very ſhort and ſlender leaf-ſtalk to the top of the ſtem. RAY ſyn. 47.

Sea-girdle and hangers.

Stones and rocks in the ſea. P. Jan.—Dec.

Boiled tender and eaten with butter, pepper, and vinegar, is ſaid by Gerrard to be a good food.

furbelowed FU'CUS *polyſchi'des*. Leaf hand-ſhaped. Leafits ſword-ſhaped. Root tuberous, hollow. Stalk flat, plaited at the edge. LIGHTF. 936.—Leaf ribleſs. HUDS. 579.

Gmel. fuc. 30.

Root large. *Stem* flat, ſpirally twiſted, more than a foot high, its top expanding into a roundiſh leaf which is divided into ſeveral very long ſegments, broad at the baſe, tapering to a point, ſometimes forked, without a mid-rib. The ſubſtance of the plant is cartilaginous; it is ſometimes 15 feet in extent; its colour greeniſh, changing to olive or to yellowiſh. GMELIN fuc. 203.

F. bulboſus. Hudſ. 579.

Rocks

Rocks and ſtones in the ſea; on the coaſt of Cornwall, frequent.
P. Jan.—Dec.

FU'CUS *palma'tus*. Leaf hand-ſhaped; flat. LINN. *handed* —Ribleſs, ſitting. HUDS. 579.

Lightf. 27, *at p.* 933.—*Gmel. fuc.* 26.—*H. ox.* xv. 8. 1.

Stem cylindrical, very ſhort. *Leaf* very ſmooth, waved at the edge, often proliferous, variouſly cut into ſegments towards the top like an expanded hand; membranaceous, thin, pellucid, green or reddiſh, near a foot broad. GMELIN fuc. 189.

Dulleſh, Iriſh. *Dills*, Scotch. *Dulls*; *Dulſe*; in Northumberland. RAY.

Rocks and ſtones in the ſea. P. Jan.—Dec.

After being ſoaked in freſh water, it is eaten either boiled, or dried, and in the latter ſtate has ſomething of a violet flavour. It is ſold in the ſtreets of Dublin, being dried, and is ſaid to ſweeten the breath and kill worms. The poor in the North of Ireland eat it boiled. RUTTY.

FU'CUS *lacinia'tus*. Leaves flat, membranaceous, *jagged* ribleſs, branched. Branches widening, hand-ſhaped. HUDS. 579.—Edges toothed and curled. LIGHTF. 947.

Gmel. fuc. 21. 1.—*Fl. dan.* 353.—*(Gmel. fuc.* 22. 2, *is ſuppoſed by Gmel. and after him by Gunn. and Retz. to be the plant, and he ſays that Pallas informed him that he had found it on the Suſſex coaſt, near Bognor Rocks.)*

Edges entire, and ſometimes between toothed and curled. HUDS. —The edges fringed when in a ſtate of fructification. LIGHTF.— Membranaceous, firm, pellucid, of a fine red colour. Leaf without a mid-rid, branched, branches moſtly forked. Three to 4 inches long, 4 or 5 broad, but a ſingle diviſion about 1 inch broad. Sides and ends of the branches fringed and toothed. Secondary leaves only about a line in breadth. GMELIN fuc. 176.—The *F. laciniatus* and *ciliatus* are involved in ſome confuſion, and for want of good ſpecimens I dare not attempt to extricate them. Perhaps there is no real ſpecific difference between them. I requeſt the attention of botaniſts on our Eaſtern coaſt to determine this, and alſo the propriety of the references, ſome of which I believe to be wrong, notwithſtanding they are ſupported by very reſpectable authorities.

Rocks and ſtones in the ſea. A. April—Oct.

FU'CUS *endiviæfo'lius*. Leaf membranaceous, jagged; *endive-leav'd* ſegments dilated, waved; edges curled, with wart-like dots. LIGHTF. 948. HUDS. 652.

Lightf.

Lightf. 32. *f. g. at. p.* 948.

Two or 3 inches in length and breadth; pale red, thin, membranaceous, without rib or nerve. Branchings irregular, ſegments broadeſt towards the ends, waved, curled and fringed. *Fructifications* ſmall, red, elevated, wart-like dots; at the baſe of the fringe. LIGHTFOOT.

Frith of Forth, and coaſt of Jona. Aug.

ciliated FU'CUS *cilia'tus.* Leaves flat, branched, fringed, HUDS. *ed.* i. 472.—membranaceous, ſpear-ſhaped, proliferous, LINN. *mant.* 136, *ſyſt. veg.* 970.—rib-leſs, pointed. HUDS. *ed.* ii. 580.

Gmel. fuc. 21. 2 *and* 3, *are referred to by Lightf. and after him by Mr. Hudſon, but* 2 *is ſerrated and* 3 *is ſerrated-toothed.—Tourn.* 335.—*(Gmel. fuc.* 20. 2, *is F fimbriatus.)*

Flat, membranaceous, ſimple, 3 inches long, a line broad, narrow at each end, proliferous, fine red, without a mid-rib. Fringe of ſecondary leaves very long, from 1 to 1½ inch, ſome of the fringe ſhorter intermixed with the longer fibres, ſimple or forked. GMELIN p. 178. Fucus ligulatus. t. 21. f. 3. A native of the Mediterranean Sea. It does not ſeem to agree with our plants, though referred to as mentioned above.—Gmelin gives the following deſcription of his fig. t. 21. 2. Membranaceous, firm, diaphanous, pale, without a mid-rib, branched, 6 inches over, branches alternate, ſomewhat winged. Primary leaf 1 inch broad, ſecondary, 2 lines; edges fringed with diſtant, upright briſtles differing in ſize, ſimple or forked. Both ſurfaces have ſome of theſe briſtles which are ſtiffer and ſometimes hooked. Gmelin. fuc. 177. F. holoſetaceus.—The *fringe* from a line to an inch long. *Fructifications* at the end of the fringe, round, of the ſize of poppy ſeeds. HUDS. *n.* 25.

Rocks and ſtones in the ſea. A. April—Nov.

proliferous FU'CUS *pro'lifer.* Leaves ſomewhat membranaceous, chain-like-proliferous, cloven at the end, LIGHTF. 949.—flat, rib-leſs. HUDS. *ed.* i. 472. *ed.* ii. 580.

Lightf. 30, *at p.* 949.—*Fl. dan.* 708.—*Buxb.* 60. 2.—*J. B.* iii. 795. 2.

Membranaceous, red, without a mid-rib, 4 or 5 inches long, a ſingle leaf about ¼ of an inch broad. Proliferous from the ſurface, not from the edge, ſhoots forked. *Fructifications* red ſpherical warts ſcattered on the ſurface of the leaves, ſmaller than a pin's head. LIGHTF.—*F. criſpus.* HUDS. not of LINN.

Weſtern coaſt. P. Jan.—Dec.

FU'CUS

FU'CUS *crispa'tus*. Leaves membranaceous, nearly strap-shaped, very much branched, curled, coloured. LINN?—Flat, rib-less, branched, edges curled and jagged. HUDS. 580. *crisped*

Gmel. fuc. 21. 4, *is referred to by Mr. Hudson with a mark of doubt.—Fl. dan.* 826; *and Buxb.* iii. 67. 3; *representing most certainly a different species from that of Gmel. are cited by Muller and Murray.*

Leaf a palm long, very tender, rosy red, somewhat waved, blunt, the segments bearing fruit. *Fructifications* roundish, small, blackish reddish hue. HUDS. *n.* 27.—Very tender. Blood red. LINN.—Membranaceous, somewhat transparent, easily torn, a foot high, dirty yellow. *Leaf* narrow; several from 1 root, straight, 2 lines broad, without a mid-rib, very smooth, edge cut, waved and curled, minute leafits issuing from every point, set also with bristles not more than 2 lines long, simple or divided, thread-shaped, solitary or in pairs. *Branches*, or larger lateral leaves, numerous, irregular, fringed like the others. GMELIN fuc. 179.—This description certainly corresponds well with Hudson's character, and we can hardly allow that colour alone should make them be considered as different.

Ulva ramosa. Hudf. ed. i. 476.

Rocks and stones in the sea, Cornwall, Devonshire, and Hampshire. A. May—Oct.

FU'CUS *bif'idus*. Leaves membranaceous, flat, ribless, widening, cloven. HUDS. 581. *bifid*

Root branched, flatted, creeping. *Leaf* 1 to 1½ inch long, membranaceous, once and sometimes twice cloven, wedge-shaped or widening towards the end, purple, semi-transparent. HUDS. *n.* 28.

Stones and rocks in the sea, Hampshire. A. May—Oct.

FU'CUS *pinnatif'idus*. Leaves gristly, flat, ribless, branched. Branches toothed, with winged clefts. Teeth callous, HUDS. 581.—blunt. LIGHTF. 953. *wing-cleft*

Gmel. fuc. 16. 3; *and* 2.—*Buxb.* iii. 65. 3.—*(Fl. dan.* 354, *is F. dentatus.—J. B.* iii. 797. 3, *is more like F. dentatus.)*

Stem olive green, the rest of the plant yellowish. Substance cartilaginous, pellucid. *Stems* roundish, many together, springing from a roundish base or fixed to the stones. *Leaves* winged, leafits opposite or alternate, blunt. One leaf rises up much taller than the others. GMELIN fuc. 155.

Rocks and stones in the sea. A. April—Oct.

FU'CUS

multifid FU'CUS *multif'idus*. Leaves griſtly, flat, ribleſs, branched. Branches alternate, pointing from 2 oppoſite lines, generally with doubly winged clefts, blunt. HUDS. 581.

H. ox. xv. 8. *row* 1. 2.

Leaf 3 to 6 inches long, ſtrap-ſhaped, below narrower and thicker, browniſh red, towards the end paler and yellowiſh; ſegments blunt. HUDS. *n.* 30.

Rocks and ſtones in the ſea in Devonſhire and Hampſhire.

P? April—Oct.

dented FU'CUS *denta'tus*. Leaves membranaceous, ribleſs, alternately winged, indentures blunt, ſegments gnawed at the end.—

Fl. dan. 354.—*Gmel.* 9.—*H. ox.* xv. 8. *row* 2. 5.—*Buxb.* iii. 65. 4.—*J. B.* iii. 797. 3.—*(Gmel. fuc.* 10. 1, *is a different ſpecies.* —*Fl. dan.* 352, *in ſyſt. veg. ed.* xiii. *and* xiv. *is probably a miſprint for* 354.*)*

Red; diaphanous; hollows of the clefts rounded. Segments toothed at the end. LINN.—A very elegant plant. *Stem* often a foot high or more, ſcarcely a line in breadth, ſtrap-ſhaped, flat, forked. Subſtance leathery, not elaſtic, dark brick colour, opake, thickeſt in the middle. Branches narrower towards the end, lying down, but the wings upright, alternate, upper ones moſt numerous and moſt divided, ſometimes proliferous. *Fructifications* on the ends of the ſegments which are divided into an infinity of little teeth, ſupporting numerous globules which are opake, black, deciduous. GMELIN fuc. 124.

Rocks and ſtones in the ſea, Devonſhire and Yorkſhire.

A. May—Oct.

ligulated FU'CUS *ligula'tus*. Leaf membranaceous, ſtrap-ſhaped, doubly winged. Wings ſword-ſhaped, fringed. LIGHTF. 946.

Lightf. 29, *at p.* 946.

Leaf 1½ to 2 feet long, about 2 lines broad, egg-ſhaped, herbaceous; ſerratures ſometimes briſtle-ſhaped. HUDS. n. 32.

F. herbaceus. Hudſ. 582.

Frith of Forth, about New Haven and other places. LIGHTF.—Rocks and ſtones in the ſea. Thrown on the ſhore near Haſtings, Suſſex, and in Northumberland. HUDS.—[Yarmouth ſhore. Mr. WOODWARD.] P. Jan.—Dec.

FU'CUS

FU'CUS *ceranoi'des*. Leaf flat; forked; very entire; dotted; ſpear-ſhaped; fructifications tubercled; cloven; at the ends of the branches.— *buck's-horn*

Gmel. fuc. 7. 1. 2 *and* 3.—*H. ox.* xv. 8. *row* 1. 13.—(*Baſt.* ii. 11. 1, *is a different ſpecies.*—*H. ox.* xv. 8. *row* 2. 11, *is F. canaliculatus* β.)

Nearly allied to *F. inflatus*, but narrower and more branched, and ſprinkled on both ſurfaces with hollow dots. LINN.—Subject to vary much in its figure, ſo that it is neceſſary firſt to point out the circumſtances to be found in all the varieties, and then to mention the differences which are leſs conſtant and do not concern the ſpecific character. *Subſtance* cartilaginous, limber, often membranaceous, more or leſs pellucid. *Stem* flat, entire, rib-leſs. *Branches* like the ſtem, always forked, equal topped, like a broad topped ſpike. *Fructifications*, or ſomething like them, minute, black, roundiſh globules, ſitting upon as if glued to the edges of the full-grown leaf, and ſometimes ſunk into its ſubſtance. When full grown it is 4 inches high, but often much ſmaller. The young plants differ ſo much from thoſe of a year old as eaſily to be taken for a different ſpecies. It varies in colour from fleſh-coloured, or yellow, to greeniſh or purpliſh. *Leaves* from a line to an inch in breadth, and varying in every poſſible degree of diviſion. *Segments* either horned and pointed, or broad, curled and fringed, or warty, or ſtellated. Sometimes the edges are jagged, or entirely fringed, and ſometimes theſe different appearances exiſt on the ſame plant. And laſtly the whole plant is ſometimes twiſted ſpirally. GMELIN fuc. 116.

Rocks and ſtones on rocky ſhores, at low water mark between Sheerneſs and Munſter. P. June—Nov.

β HUDS. 582.—When dry dirty green. Little branches compreſſed. R. *ſyn.* 44. *n.* 17.—Edges as well as the ends of the branches jagged. LINN.

At Brakelſham, Cockbuſh, and other places on the Suſſex coaſt.

δ HUDS. 582.—Whitiſh. The ends ſtar-like. R. *ſyn.* 44. *n.* 18.

In the ſame places with β.

γ HUDS. 583.—The ends membranaceous, widened, torn. *R. ſyn.* 44. *n.* 19.

Gmel. fuc. 22. 3.—*and ib.* 23.

Four inches high; membranaceous, pellucid, fine red. *Stem* flat, nervous, enlarged on each ſide with membranaceous rudiments, which expand into broad leaves; theſe leaves are hand-ſhaped with many clefts, waved, ſcolloped, ribleſs, irregularly divided, clefts differing in depth, generally three at the end, which is rounded. GMELIN fuc. 183.—Narrower and more branched than the preceding; marked on each ſurface with ſcattered hollow dots. LINN.

Fucus lacerus. LINN.

Sea ſhores, common.

δ HUDS. 583.—Leaf flat, forked, very entire, dotted, egg-ſpear-ſhaped, inflated, divided at the end. LINN. *ſp. pl.*

F. inflatus. Linn. Lightf. 910.

Shore near Muſſelborough. July—Aug.

ε Leaves broader, and warty.

H. ox. xv. 8. *row* 1. 13.

Well repreſented by the above figure. Convex on one ſide, concave or channelled on the other, which circumſtance probably induced Mr. Hudſon to refer it to the *F. canaliculatus.* Major VELLEY.

Fucus exciſus. Hudſ. 583.

furrowed FU'CUS *canalicula'tus.* Leaf flat, forked, very entire, channelled, ſtrap-ſhaped. Fructifications tubercled, divided into 2 parts, blunt. LINN. *ſyſt. nat. ed.* xii. 716. *ſyſt. veg. ed.* xiii. *and* xiv.

Gmel. fuc. 1. *A.* 2.—*Fl. dan.* 214.—*H. ox.* xv. 8, *row the laſt,* 12.

Many times forked, ſmooth, narrow, one ſide convex, the other channelled. *Bladders* terminating, divided into 2, or in pairs, ſitting, ſprinkled with perforated tubercles. LINN. *ſyſt. nat.* 716.—Channelled or cut into longitudinal hollows on one ſurface. *Stems* and leaves ribleſs. GMELIN fuc. 73.

Rocks and ſtones in the ſea. P. June—Aug.

β Dotted at the forks. Forks ſtraddling. LINN.

H. ox. xv. 8. *row* 2. 11.

F. exciſus. Linn. ſp. pl. 1627. ſyſt. nat. ed. xii. 715. Hudſ. ed. i. 468.

γ—*H. ox.* xv. 8. *row* 1. 13.

F. canaliculatus β Hudſ. 583.

δ—*Gmel. fuc.* 1. *A.* 3.

F. canaliculatus γ Hudſ. 583.

***** *Leaf compreſſed.*

narrow-leaved FU'CUS *lo'reus.* Leaf thread-ſhaped, compreſſed, forked, tubercled all over. LINN.—Leaf pointed, tubercled with ſcattered veſicles. HUDS. 583.

Fl. dan. 710.——*Schloſſer in Gent. Mag.* 1756, *p.* 64. *f.* 1 *to* 4.—*Dod.* 479. 2, *repr. in Ger. em.* 1568. 5, *and cop. in Park.* 1293. 6, *the uppermoſt of the* 3.

Tall, forked, ſtrap-ſhaped, compreſſed; ſet with raiſed, blunt tubercles. LINN.—This plant at its firſt appearance ſo much reſembles a Fungus, that ſome authors have miſtaken it for one. Ray

ſeems

ſeems to have deſcribed it as a diſtinct ſpecies under the name of "Fucus Fungis affinis." *Syn.* p. 43. n. 15. from the center of the little Fungus-like ſubſtance 3 or 4 ſhoots ariſe, and extending by degrees into branches, conſtitute the perfect plant. The little Fungus ſtill continues and forms a kind of fence or cup at the baſe of the ſtem.

Sea Thongs.

Rocks and ſtones in the ſea. Mount's-bay, Cornw. P. June—Sept.

FU'CUS *elonga'tus.* Leaf thread-ſhaped, compreſſed, forked, jointed. Knots ſomewhat ſwollen. LINN.—Leaf downy, blunt. HUDS. 584. *elongated*

H. ox. xv. 8. *row* 2. 7, *was referred to by Linnæus in the ſp. pl. but in mant.* 508, *directed to be eraſed. Mr. Hudſon has notwithſtanding retained it.—(Dod.* 479. 2, *repr. in Ger. em.* 1568. 5, *and cop. in Park.* 1293. 6, *is F. loreus.)*

Swollen and jointed at the forks, ſo that in drying they often ſeparate. LINN.

F. tomentoſus. Hudſ. 584.

Rocks and ſtones in the ſea, Cornwall. Near Exmouth, Deviſhire, and Yorkſhire. P. May—Oct.

FU'CUS *nodo'ſus.* Leaf compreſſed; forked. Leafits pointing two ways; very entire. Bladders in the ſubſtance of the leaf, ſolitary; dilated.— *knotted*

Fl. dan. 146.—*Baſtar* 11. 5.—*Dod.* 480. 1, *repr. in Ger. em.* 1568. 6, *a portion of a branch cop. in Park.* 1293. 6, *the left hand lowermoſt figure.—Gmel. fuc.* 1. *B.* 1.—*H. ox.* xv. 8. *row* 3. 2.

Bladders egg-ſhaped, growing in the middle of the branches, broader than the branches. *Leafits* ſpear-ſhaped, blunt, from the edges of the leaf. LINN.—Hard, leathery, 6 feet long, yelloviſh when freſh, blackiſh when dry. *Stem* variouſly branched, flat, about ½ inch broad. Trailing, entire or winged, or alternately winged and forked towards the ends. *Leaves* ſimple, in pairs, ſeveral from the ſame fork of the branch, none towards the bottom of the ſtem. *Leaf-ſtalks* very ſhort. The thicker leaves contain granulated fructifications in a mucus fluid. *Air-veſſels* both on the ſtem and on the leaves, large, elliptical, hollow. GMELIN fuc. 79.

Rocks and ſtones in the ſea. P. May—Oct.

β Stem ſerrated. LIGHTF. 920.

Gmel. fuc. 1. *B.* 2.

pigmy FU'CUS *pygmæ'us.* Leaf griſtly, compreſſed, widening and hand-ſhaped at the end. Fructifications terminating, roundiſh, perforated at the end. LIGHTF. 964.—Leaf forked. Forks ſtraddling, thoſe neareſt the end with veſicles, moſtly ſolitary, growing in the ſubſtance of the leaf. Fructifications globular. HUDS. 584.

Lightf. 32. 1, *at p.* 948.

Leaf nearly 6 inches long, griſtly, nearly flat, narrower below, blackiſh olive-coloured and ſometimes purpliſh blue. *Veſicles* ſometimes double, round, inflated. *Fructifications* ſmall, ſmooth. HUDS. *n.* 38.—This plant might with propriety be called a marine Lichen, as it has not only the habit of a Lichen, but the ſpherical veſſels which are hollow and open at the top bear the ſtrongeſt reſemblance to the ſaucers peculiar to thoſe plants. Major VELLEY.

F. pumilus. Hudſ. 584.

Rocks in the little iſles of Jura waſhed by the tides, on the coaſt of Jona, and in the Frith of Forth, and ſeveral other places. LIGHTF. —Rocks and ſtones in the ſea between high and low water mark. HUDS. P. June—Oct.

filiform FU'CUS *filifor'mis.* Leaf griſtly, thread-ſhaped, compreſſed, forked, pointed. HUDS. 585.

Leaf ½ foot long, ſemi-tranſparent, reddiſh. HUDS. *n.* 39.

Rocks and ſtones in the ſea near the Iſle of Walney, Lancaſhire. P. May—Oct.

horny FU'CUS *cor'neus.* Leaf griſtly, compreſſed, very much branched. Branches alternate, from 2 oppoſite lines, winged. Segments oppoſite, briſtle-ſhaped. Fructifications roundiſh, on fruit-ſtalks. HUDS. *ed.* i. 474. *ed.* ii. 585.—Leaf griſtly, thread-ſhaped, compreſſed, branched. Little branches briſtle-ſhaped, winged. LIGHTF. 956.

Gmel. fuc. 15. 3, *cited by Lightf. and by Hudſ. with a note of doubt.* —*Gmel. fuc.* 18. 3, *is alſo referred to by Lightf.*—*Gunn.* ii. 2. 8, *ſeems a better figure of the ſame plant.*

Rocks in the ſea on the coaſt of Cornwall and Devonſhire. P. May—Oct.

pinnated FU'CUS *pinna'tus.* Leaf griſtly, thread-ſhaped, compreſſed, generally triply winged; ſegments awl-ſhaped, nearly upright. HUDS. 586.

Leaf 3 inches long, red, ſometimes doubly winged, pointed; ſegments oppoſite, very ſhort. HUDS.

Rocks

Rocks and ſtones in the ſea, Cornwall, Devonſhire, Suſſex, and Scarborough. A. May—Oct.

FU'CUS *obtu'ſus*. Leaf griſtly, thread-ſhaped, compreſſed, moſtly doubly winged; ſegments inverſely egg-ſhaped, with tubercles at the end. HUDS. 586. *obtuſe*

Leaf 4 inches long, ſemi-tranſparent, purpliſh; *ſegments* oppoſite, expanding. HUDS. *n.* 43.

Stones and rocks in the ſea near Haſtings, Suſſex, and Devonſhire. A. May—Oct.

FU'CUS *fili'cinus*. Leaves griſtly, compreſſed, blunt, moſtly triply winged. Segments horizontal, blunt. HUDS. *ed.* i. 473. *ed.* ii. 586. *fern-leaved*

(Gmel. fuc. 16. 2, *is only doubly winged, and is F. pinnatifidus.)*

(F. filicinus. Lightf. 955, is F. pirnatifidus.)

Rocks and ſtones near Walney, Lancaſhire. A. May—Oct.

FU'CUS *cartilagin'eus*. Leaf griſtly; compreſſed; more than doubly compound; winged. Segments ſtrap-ſhaped.— *cape*

Mill. illuſtr.—Giſek. 25.—*Gmel. fuc.* 17. 2, *the very end is the only part which gives any tolerable idea of the ſhape of the ramifications.*

Stem depreſſed, very much branched. *Branches* alternate, very long, alternately winged, with an odd one at the end. *Wings* cut into winged clefts; ſegments thick, awl-ſhaped and fructifying at the ends. This plant is often 3 feet high, its ſubſtance griſtly, its colours very elegant, but variable, reddiſh green, browniſh red, yellowiſh, and all theſe often exiſting in the ſame individual plant. GMELIN fuc. 158.

Rocks and ſtones. Cornwall. STEVENS *in R. ſyn.* 586. P. Jan.—Dec.

FU'CUS *coccin'eus*. Leaf griſtly, compreſſed, very much branched. Little branches alternately pointing one way. Fructifications globular, lateral. HUDS. 586. —Leaf membranaceous-griſtly. Little branches alternately pectinated. LIGHTF. 957. *ſcarlet*

Cluſ. ii. 250. 1, *repr. in Ger. em.* 1573. 9, *and cop. in Park.* 1289. 2.—*Gmel. fuc.* 16. 1.—*Fluk.* 48. 2.—*(J. B.* iii. 797. 2, *is juſtly rejected by Dill. in R. ſyn.)*

Subſtance membranaceous, griſtly, fine red, often with ſome white or yellow intermixed, very rarely green; about 4 inches high. *Stem* half a line in diameter, cylindrical but depreſſed, upright, ſoft,

flexible, ſoon becoming flat. *Branches*, the large ones, alternate, long, exactly ſimilar to the ſtem. Secondary branches winged. *Wings* compoſed of thick awl-ſhaped ſegments, ſomewhat crooked, from 2 to 5 lines long. *Fructifications* globular, black, ſitting on the ſides of the ſtem or branches; now and then one appears with a ſhort fruit-ſtalk. GMELIN fuc. 154.

F. cartilagineus. Hudſ. ed. i. 473.

Rocks and ſtones in the ſea. P. June—Oct.

feathered FU'CUS *plumo'ſus*. Leaves griſtly; ſpear-ſhaped; doubly winged; feather-like. Stem thread-ſhaped; compreſſed; branched. LINN.—Leaf compreſſed, branched. Branches doubly winged. Fructifications on fruit-ſtalks, globular, radiated. HUDS. 587.

Gunn. ii. 2. 15.—*Fl. dan.* 350.—*R. ſyn.* 2. 5, *at p.* 60.—*Pluk.* 48. 2? *but Giſeke in his index calls it F. criſtatus, which may be a miſprint for criſpatus.*

About 5 inches high, purple red.—*Stem* depreſſed, very much branched, branches irregular, tiled; leafits doubly winged, with ſoft, undivided, crooked threads, thickeſt at the end and with ſomething of a jointed appearance. GMELIN fuc. p. 152.

Reſembles *F. abrotanifolius*, but is winged like a *Hypnum*, and ſmall. LINN.

Rocks and ſtones in the ſea. P. Aug.—Oct.

****** *Leaf cylindrical.*

thread FU'CUS *Fi'lum*. Leaf thread-ſhaped; ſomewhat brittle; opake.—

Fl. dan. 821.—*Pet. gaz.* 91. 5.

Leaves not ſwimming on the ſurface of the water but juſt below it. LINN. *ſuec. n.* 1153.—Thread-ſhaped, thinneſt at both ends, about a line in diameter, undivided, ſmooth, filled with mucus, ſeparated internally into joints, cartilaginous, brittle, often matted together, twiſting ſpirally when dry. Colour green, blackiſh brown when dry, bleaching on the ſhore to a ſtraw colour or a white. GMEL. fuc. 132.—The bleached ſpecimens ſometimes ſhew the joints extremely diſtinct, as is the caſe with one now before me ſent by Major Velley, who obſerves with Mr. Lightfoot that the tranſverſe ſepta almoſt reduce it to the genus Conferva.

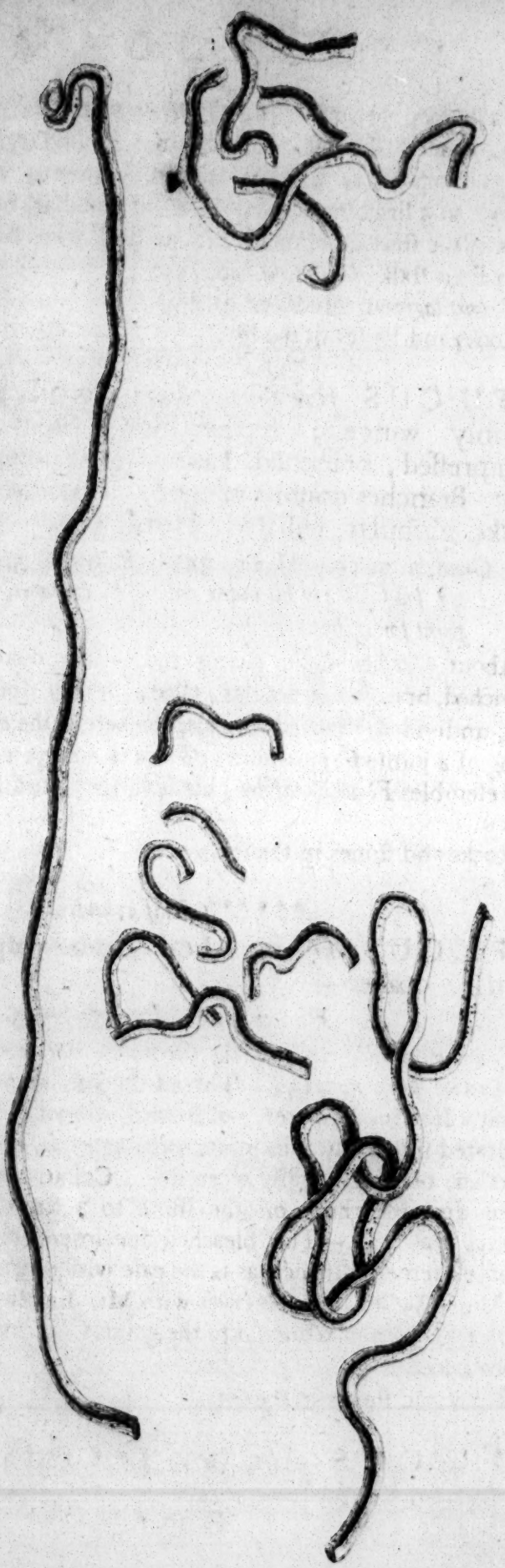
Sea Laces.

Rocks and ſtones in the ſea. P. Jan.—Dec.

almond bloſſom FU'CUS *defrac'tus*. Leaf thread-ſhaped, ſimple, diaphanous, viſcid.—

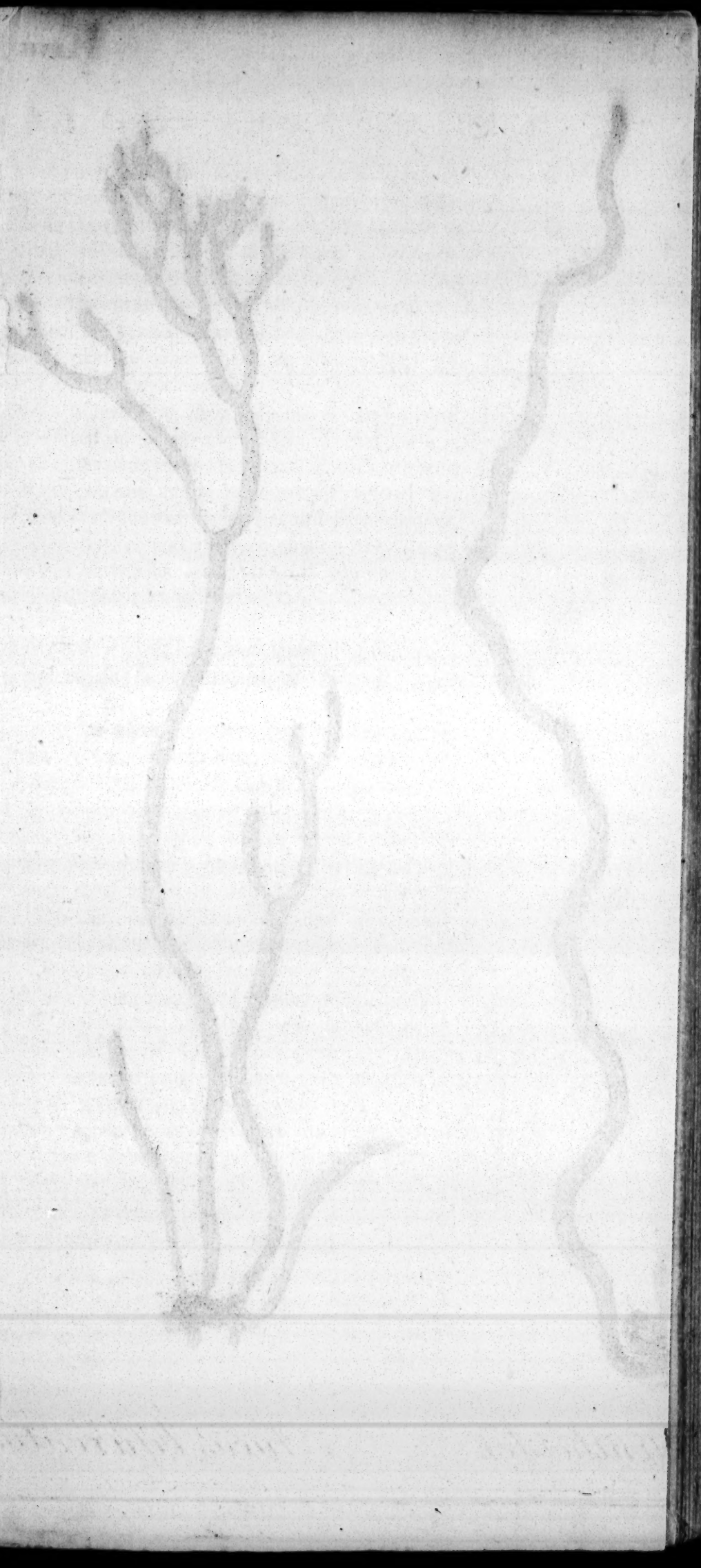
Pl. 17. f. 3.

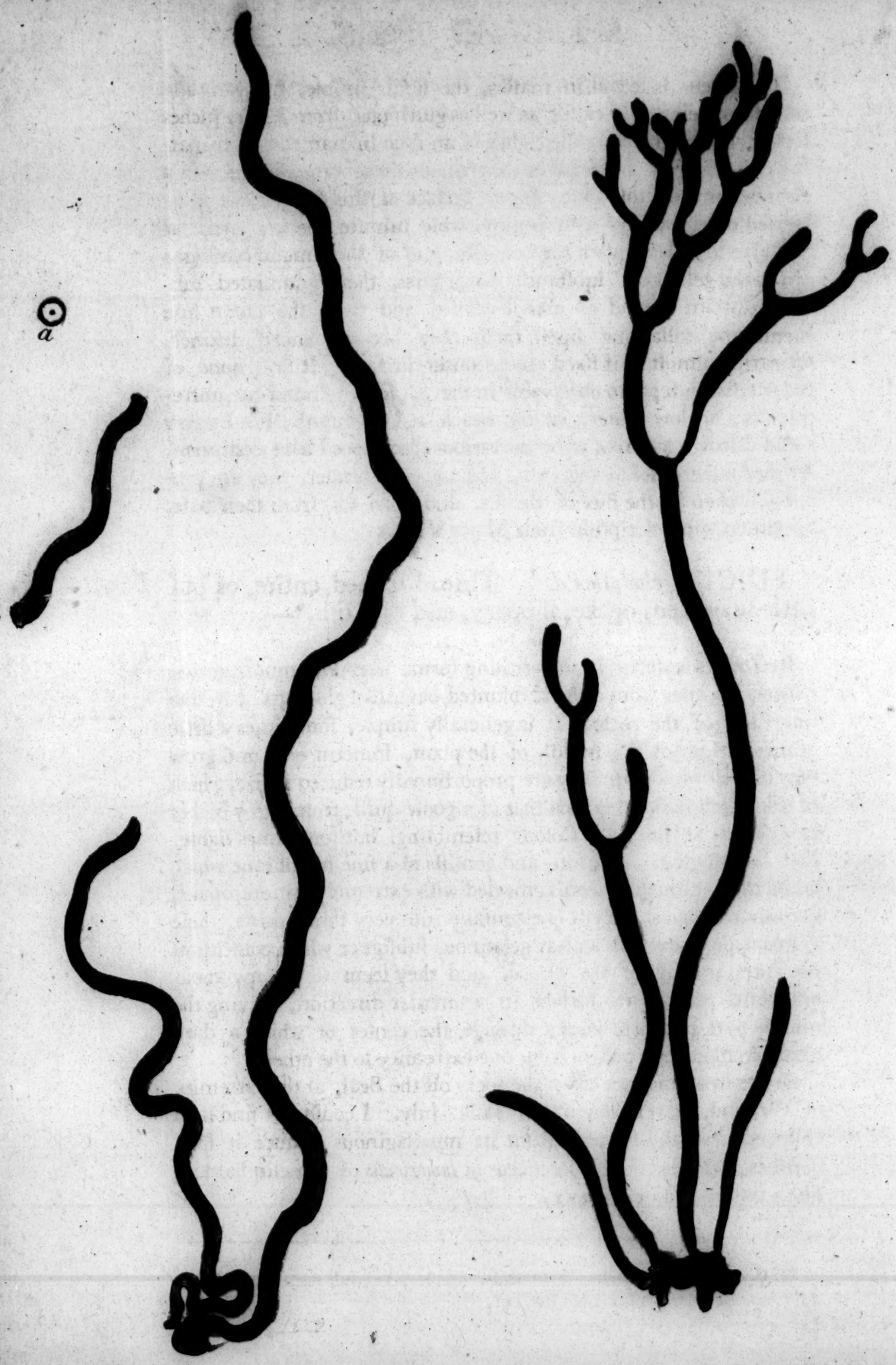
This



Ulva defracta *vide Fuc. defractus.*

B L





2. *Fucus elminthoides.*

1. *Fucus bifurcatus.*

This Fucus is found in maſſes, the ſtems ſimple, but variouſly coiled up, being very elaſtic as well as glutinous; from 8 to 12 inches long, cylindrical, nearly the eighth of an inch in diameter, terminating obtuſely. It conſiſts of a diaphanous membrane replete with a clear gelatinous ſubſtance. Inner ſurface of this membrane interſperſed on every part with innumerable minute ſpecks, which at firſt give the whole plant the beautiful hue of the almond bloſſom; but as the gelatinous ſubſtance diminiſhes, theſe granulated ſubſtances attain a kind of orange-colour, and from the outer fine membrane collapſing upon them they become more diſtinct, appearing almoſt as if fixed on the outer ſurface. It has none of the tranſverſe ſepta ſo obſervable in the *F. filum*. Found not unfrequently, at low water, on the beach at Weymouth; but I never could diſcover any root upon the various ſpecimens I have examined. As they adhere cloſely together, and are very tender, they are probably broken by the flux of the ſea, and torn off from their baſe. Specimen and deſcription from Major VELLEY.

FU'CUS *elminthoi'des*. Thread-ſhaped, entire, or but little branched, opake, ſlippery, end bluntiſh.*— *Pl. 17. f. 2.* *Earth-worm*

Reſembles a worm in its writhing form, ſize, and mucilaginous nature. It riſes from a thick, blunted baſe, like glue, fixed in the interſtices of the rocks. It is generally ſimple, ſometimes a little branched toward the middle of the plant, ſometimes 5 or 6 grow together, in which caſe they are proportionally reduced in ſize, which in the largeſt ſeldom exceeds that of a gooſe-quill; from 4 to 7 inches long, blunt at the end. Colour reſembling, but ſometimes lighter than that of glue. It is ſoft, and conſiſts of a fine membrane which on its internal ſurface ſeems crowded with extremely minute, opake, granulated bodies. If cut horizontally into very thin lamina, theſe grains appear fixed in a clear gelatinous ſubſtance which conſtitutes the interior body of the Fucus, and they ſeem to occupy about one third part of its ſurface in a circular direction, leaving the middle part perfectly clear, through the center of which a dark parenchymous line paſſes, from one extremity to the other.

Grows in abundance upon the rocks off the Beal, at the extremity of Portland, at very low water. June. July. I could not find it in October, ſo that I ſuppoſe from its mucilaginous texture it ſoon periſhes; whereas the *F. furcellatus* or *lumbricalis* of Gmelin hardens like a ſinew. Major VELLEY.

FUCUS *(elminthoides)* Filiformis, ſimplex, vel ſub-ramoſus, opacus, lubricus, apice ſub-obtuſo. M. VELLEY.

FU'CUS

pedunculated FU'CUS *pedunculatus*. Leaf griſtly, thread-ſhaped, branched. Branches briſtle-ſhaped, bearing fruit, ſcattered. Fructifications ſcattered, on fruit-ſtalks, oblong. HUDS. 587.

Leaf 9 inches long, ſemi-tranſparent, yellowiſh. *Branches* very ſimple, long. *Fructifications* numerous, ſmall, browniſh. *Fruit-ſtalks* long. HUDS. *n.* 49.

Rocks and ſtones in the ſea. Portland iſland. A. July—Sept.

warty FU'CUS *verruco'ſus*. Leaf griſtly, briſtle-ſhaped, branched. Branches very long. Fructifications lateral, globular, ſitting. HUDS. *ed.* i. 470. *ed.* ii. 588.

Fl. dan. 358 *and* 650.—*Gmel. fuc.* 13.

Two feet high, or more; cartilaginous, yellowiſh green or browniſh purple. *Stem* upright, thickneſs of thin packthread. *Branches* very long, often pointing 2 ways, often alternate, often without any regular order. Small ſcattered globules on the ſides of the branches. GMELIN.

F. flagelliformis. LIGHTF. 928.

Rocks and ſtones in the ſea. Suſſex, Hampſhire, and Cornwall. P. June—Oct.

white FU'CUS *al'bidus*. Leaf griſtly, thread-ſhaped, nearly round, ſomewhat forked. Branches briſtle-ſhaped, diſtant, moſtly pointing one way. Fructifications lateral, roundiſh, ſitting. HUDS. 588.

Gmel. fuc. 14. 1.—*(Fl. dan.* 408, *is F. plicatus.)*

From 2 to 12 inches high, or more. *Stem* cylindrical, cartilaginous, but tender, very pellucid, ſet with numerous ſmall dots with a perforated appearance; branches from near the root; reſembling the ſtem, nearly as thick, but very ſhort; diviſions and ſub-diviſions of the branches finer and finer. *Branches* often on one ſide, ſometimes on both; ſometimes forked, generally ſolitary. *Warts* or capſules, lateral, ſitting, frequent, pellucid, ſolitary, or in pairs, diſtant or crowded, varying in ſize, open at the top. GMELIN 136. —I have ſeen a ſpecimen ſent to Major Velley from the Eaſtern coaſt by the Hon. Mr. Wenman, which by no means accords with Gmelin's figure, though it agrees pretty well with his deſcription. In this ſpecimen the branches are winged with and terminated by briſtly threads as fine as hairs; the *fructifications* are pretty numerous, ſome ſitting in the forks and on the ſides of the branches, and others terminating the above-mentioned briſtly threads, ſo that they appear as if ſtanding upon fruit-ſtalks.

Rocks and ſtones in the ſea, common. P. June—Oct.

FU'CUS

FU'CUS *bifurca'tus*. Leaf thread-ſhaped, ſomewhat forked. Branches blunt, tubercled. HUDS. 588.—Diviſions of the forks oval, not angular. M. VELLEY.—Branches parallel. WITH. *tuberculated*

Pl. 17. *f.* 1.

Nearly allied to *F. faſtigiatus*, but differs in not being uniformly forked nor level, the branches being unequal, and the longeſt ſprinkled with tubercled fructifications. HUDS. *n.* 52.—From 5 to 9 inches high. *Root* compact, cartilaginous, adhering ſtrongly to the rocks. *Stems* undivided for the ſpace of 3 or 4 inches from the root, when they become forked, and proceeding 3 or 4 inches higher ſtrike out into a continued ſeries of very ſhort forked branches cluſtered together. All the ſtems are perfectly cylindrical, nearly of an equal ſize throughout, ſeldom larger than a crow-quill, but in general thicker than the *F. faſtigiatus* and *F. furcellatus*, and are more regularly forked than any I have met with, the *F. loreus* excepted. It differs from the other forked Fuci in invariably maintaining an oval mode of growth inſtead of an angular one at the forks, and alſo in the rounded blunt termination of the branches. At the latter end of ſummer, on examining the forked tops of the plant, ſeveral of them appeared replete with opake ſubſtances. On making a longitudinal inciſion into theſe, I clearly diſcovered, by the help of a moderate magnifier, the form and direction of theſe veſſels which proceeded from a point, or kind of puncture in the inner ſide of the membrane. They evidently grew in a conical ſhape, and reſembled a Peziza. The tops of theſe Peziza-form veſſels were regularly dilated and ſomewhat prominent, covered with ſmall dark globular grains. Differs from the *F. faſtigiatus* and *furcellatus*, in being leſs branched than either of them, but particularly in the forked extremities of the latter conſtantly originating in acute angles. It differs alſo from the *F. rotundus* of Gmelin; for beſides the forks being acute in the *rotundus*, the fructifications grow in excreſcences on *various parts* of the ſtem; and for this laſt reaſon among others, it cannot be the *F. angulatus* of that author. Mr. Hudſon has named this plant the *F. tuberculatus*, but as ſeveral other Fuci put on *tuberculated* appearances in maturity, I have in conformity to its character, and mode of growth, called it *F. bifurcatus*. Major VELLEY.

Fucus tuberculatus. HUDS.—(*F. tuberculatus*. Lightf. 926, is F. purpuraſcens.)

On rocks and ſtones in the ſea near St. Ive's, Cornwall.

P. June—Oct.

FU'CUS *faſtigia'tus*. Leaf thread-ſhaped, forked, very much branched. Branches nearly of the ſame length, *forked*

length, blunt. LINN.—Veſicles ſpear-ſhaped, terminating, HUDS. 588.

Fl. dan. 393, *(plant of Linn.)*—*H. ox.* xv. 9. *row* 2. 9.—*Gmel. fuc.* 6. 1, *the end of a branch.*

Cartilaginous, rather thick, 6 inches high, or more, colour yellowiſh or olive brown. *Stem* cylindrical, thickneſs of a ſmall packthread, upright, branched. *Branches* riſing to an equal height, forked, ſhorter than in the *F. furcellatus*. *Fructifications* on the ends of all the branches, egg-ſpear-ſhaped flatted veſicles, bordered by a furrow, opening at the top when ripe, and pouring out a prolific mucus. GMEL. fuc. 106.—Bleaches to the colour of iſinglaſs, and has then a horny appearance when dry. Agrees with the Linnæn character, except that it cannot be conſidered as *very much branched.*

F. faſtigiatus and *furcellatus*, Hudſon and Lightfoot, the ſame, the *faſtigiatus*, Linnæus, ſeems to be different.

Rocks and ſtones in the ſea. P. June—Oct.

β Uppermoſt branches more tapering to a point.

Fl. dan. 419.—*H. ox.* xv. 9. *row* 1. 4.—*Gmel. fuc.* 6. 2.

Six inches high; cartilaginous, opake, brown turning black; the young plants reddiſh brown or greeniſh. *Stem* ſingle, ſplitting at about an inch from the root, or elſe riſing in two or more ſeparate ſtems from its origin. *Branches* ſhaped like a worm, filled with ſlime containing granulations. GMEL. 108.—Approaches very nearly to *F. faſtigiatus*, but longer, and the *Branches* thicker. Is moſtly red. LINN.—Probably no more than a variety. LIGHTF. 932.—*F. faſtigiatus* and *furcellatus* are one and the ſame ſpecies. I have a ſpecimen in my poſſeſſion, in which they both grow from one root, and one branch is divided with *furcellatus* on one part and *faſtigiatus* on the other. *F. faſtigiatus* I am inclined to think will be found to be the flowering and *furcellatus* the fruiting plant. Mr. WOODWARD. ST. —Scarcely different from the *F. faſtigiatus*. Major VELLEY.

F. lumbricalis. Hudſ. ed. i. 471.—*F. furcellatus.* Hudſ. ed. ii. p. 589.

Rocks and ſtones in the ſea, and on the ſea beach. P. Jan.—Dec.

diffuſe FU'CUS *diffu'ſus*. Leaf griſtly, thread-ſhaped, forked, ſtraddling, ſpreading. HUDS. 589.

Leaf ½ a foot long, of the thickneſs of ſhop packthread, yellowiſh or purpliſh, ſemi-tranſparent, very much ſtraddling, the ends pointed. HUDS. *n.* 55.

Rocks in the ſea. Cornwall, Devonſhire, and Portland Iſland. P. Jan.—Oct.

matted FU'CUS *plica'tus*. Leaf griſtly, thread-ſhaped, matted, ſemi-tranſparent. HUDS. 589.—Little branches moſtly pointing one way. LIGHTF. 929.

Gmel.

Gmel. fuc. 14. 2.—*Pluk.* 184. 2.—*Fl. dan.* 408.

About 6 inches high; horny, tough, orange red, rigid and brittle when dry. *Stems* very numerous, crowded together at the root, cylindrical, ſerpentine, little branches from the ſides, and forked at the end. GMEL. fuc. 142.

Rocks and ſtones in the ſea. A. May—Nov.

FU'CUS *purpuraſ'cens*. Leaf thread-ſhaped, very much branched. Little branches briſtle-ſhaped. Fructifications globular, in the ſubſtance of the leaf. HUDS. 589. —Leaf cylindrical. Branches alternate. Little branches with tubercles, Tubercles roundiſh, diſtant, in the ſubſtance of the leaf. SOLANDER in *Fl. ſcot.* 926. *purple*

Subſtance cartilaginous, tender, about 2 inches high; purple, pouring out a purple fluid. *Stem* thread-ſhaped. *Branches* very numerous, divided and ſub-divided, the extreme diviſions very ſlender; alternate or oppoſite, thread-ſhaped, ſupporting ſitting globules. The whole plant abounds with black ſpots. GMEL. fuc. 139.

F. purpureus. Hudſ. ed. i. 471.—*F. tuberculatus.* Lightf. ib.

Rocks and ſtones in the ſea, P. May—Oct.

FU'CUS *incur'vus*. Leaf thread-ſhaped, very much branched. Branches tiled, the ends rolled in. Little branches awl-ſhaped, pointing moſtly one way. HUDS. 590. *pine*

Gmel. fuc. 11. 1.

Root rather woody, tough, round. *Stem* a foot high, or more, branched. *Branches* ſet on every ſide with crooked ſharp briſtles, all pointing upwards, of different ſizes, ſometimes ½ an inch long. *Fructification* conſiſts of globules ſitting, or on foot-ſtalks, on the ſides or in the forks of the branches. GMEL. fuc. 127.

Rocks and ſtones in the ſea. Suſſex. P. Jan.—Dec.

FU'CUS *aculea'tus*. Leaf thread-ſhaped, compreſſed; very much branched; edged with awl-ſhaped, alternate, upright teeth.— *prickly*

Fl. dan. 355.—*H. ox.* xv. 9. *row* 1. 4.—*Gmel. fuc.* 12.—*(Fl. dan.* 357, *is erroneouſly referred to this in the index at the end of faſc.* xiii.)

Reſembles the tail of a horſe.—Greatly branched, ſometimes 2 feet long. *Root* thick, in ſome degree globular, from whence 2 or 3 principal ſtems proceed which throw out branches on each ſide in an alternate ſeries, 2 or ſometimes more growing from the ſame knot or joint; and theſe alſo are ſub-divided into long ſlender thread-ſhaped but flattened leaves, each of which, as well as the ſecond branches, are armed

armed with ſhort ſharp-pointed prickles. Stems thread-ſhaped. Plant olive green. Major VELLEY.

Rocks and ſtones in the ſea, Devonſhire, Cornwall, and Northumberland. P. May—Oct.

β *muſcoides*. Hudſ. 590.—Thread-ſhaped. Branches very numerous, diverging, zigzag.

Rocks in the ſea. Yorkſhire, Northumberland, but not common. P. May—Oct.

amphibious FU'CUS *amphib'ius*. Leaf thread-ſhaped, very much branched. Branches alternate, rolled in. Little branches very ſhort, with many clefts. Fructifications oblong, on fruit-ſtalks. HUDS. 590.

R. ſyn. 2. 6, *at p.* 60.—*Pluk.* 47. 13.

About an inch high, woody, livid or greeniſh, to blackiſh. *Stem* ſoon becoming branched. *Branches* dividing and ſubdividing, alternate, the ultimate branches extremely fine. On the ſides of the branches there are ſhort teeth, which ſwell and coil up; they contain ſlime, and ſeem to perform the office of fructification. GMEL. fuc. 135.

F. ſcorpioides. Hudſ. ed. i. 471.

Rocks and ſtones in the ſea, and in ſalt water ditches and ſalt marſhes. P. July—Sept.

woolly FU'CUS *lano'ſus*. Leaves hair-like, forked, very much branched, rough. LINN.—Fructifications tubercled, lateral. HUDS. 590.

A ſpan high, reſembling black wool. Rough with dots placed nearly in whorls and only viſible when magnified. LINN.

Rocks and ſtones in the ſea. Iſle of Walney, Lancaſhire. P. July—Oct.

rough FU'CUS *confervoi'des*. Leaf thread-ſhaped, very much branched, rough. Branches tiled, hair-like. Little branches very ſhort, bundled, finely toothed. HUDS. 591.

Leaf ½ foot long, ſtiffiſh, opaque, black. *Branches* very numerous. *Little branches* with many clefts, toothed, teeth blunt. HUDS. *n.* 62.

Stones and rocks in the ſea, in Yorkſhire and Cornwall. P. May—Oct.

capillary FU'CUS *capilla'ris*. Leaf thread-ſhaped, very much branched. Branches alternate. Little branches moſtly pointing one way, awl-ſhaped, ſhort. HUDS. 591.

Leaf

Leaf nearly ½ a foot long, blackiſh purple. *Branches* alternate, hair-like, long. *Little Branches* ſemi-tranſparent, very ſhort. HUDS. *n.* 63.

Stones in the ſea near Sheerneſs, Iſle of Shepey, Devonſhire and Cornwall. P. April—Oct.

1323. CONFER'VA. River-weed.

Fibres ſimple; uniform; like hair or thread.

ESS. CHAR. *Unequal Tubercles, on very long, hair-like fibres.*

OBS. Theſe fibres are either continued or jointed.

* *Threads ſimple, equal, without joints.*

CONFER'VA *rivula'ris.* Threads undivided; equal; very long.— *common*

Dill. 2. 1.—*Mich.* 89. 7.—*Lob. obſ.* 654. 1, *repr. in Ger. em.* 1570. 11, *and cop. in Park.* 1261. 2.—*(Fl. dan.* 881, *is ſometimes forked.)*

Entirely formed of threads, from 1 to 2 cubits or more in length, extremely ſlender, floating, not branched, green, ſhining like ſilk. DILL. 12.

Crow-ſilk.

Slowly flowing brooks and rivers. P. Jan.—Dec.

β HUDS. 591.—Shorter and thicker.

Dill. 2. 2.—*Mich.* 89. 6.

Wide ſpreading, 1 to 2 feet long; thick as a hair, rarely matted, pale green, ſhining. DILL. 13.

In ditches in fields near Mitcham, Surry. DILL.

CONFER'VA *fontina'lis.* Threads undivided; equal; ſhorter than one's finger.— *ſpring*

Fl. dan. 651. 3.—*Dill.* 2. 3.—*Mich.* 89. 8, 10, 11.

Conſiſting of very fine, ſhort, unbranched, hair-like threads, crowded together. Varies in colour, in aerated waters ochrey and harder, in common ſprings browniſh or dark coloured, in rivulets dark green. DILL. 14.—Threads an inch long, collected about a center, which is yellowiſh, the extremities dark green. LINN.

On ſtones in rivulets and ſprings. In the New River near Hornſey. DILL. A. March—June.

CON-

cataract CONFER'VA *confragoſa.* Threads ſlimy, ſimple, equal, violet, LIGHTF. 976. — not a finger's length. HUDS. 592.

Dill. 2. 4.

The whole forms a ſlippery mucous ſubſtance. *Threads* ſhort, ſo fine and ſo denſely crowded together that no eye can diſtinguiſh whether they are entire or branched; ſhining when dry, a fine violet colour. It adheres to the paper without gum. DILL.

Near Llanberris, Wales. DILL.—On rocks in the waterfalls on Goatfield, in the Iſle of Arran. LIGHTF. A. May—Oct.

** *Threads branched, equal.*

forked CONFER'VA *furca'ta.* Threads equal; branched at the ends. Branches ſimple. HUDS. 592.

Dill. 2. 6.

Extremities 2 or 3 forked; pale, not ſhining, nearly white when dry. DILL.

Gently flowing brooks. A. Oct.—May.

β HUDS.—Threads ſhorter; thicker; and more branched. DILL.

Dill. 3. 10.

Threads 2 to 4 inches long, irregularly diſperſed, not taking any determinate figure in the water, about as thick as a hair; green, greyiſh and not ſhining when dry. In ſpring and ſummer it is of muddy dull green; in autumn it ſeems renovated and changes to a more lively green. DILL.

Ditches.

briſtle CONFER'VA *dichot'oma.* Threads equal; forked.—

Dill. 3. 9

Grows upright, crowded together; dull green, Threads ſmooth, from 4 to 12 inches high, or more, forked diviſions beginning about the middle, and theſe again repeatedly divided and ſubdivided into other forks. DILL.

Below Charlton, Kent, in the marſh ditches near the Thames. MERR. 28.—Salt water ditches between Greenwich and Woolwich. DILL.—Near Graveſend. HUDS. P. Jan.—Dec. DILL.

cotton CONFER'VA *bullo'ſa.* Threads equal; branched; matted; incloſing air bubbles.—

Dill. 3. 11.

Threads ſlender, 3 inches to a foot or more in length, green, or dull yellowiſh green, ſoft, rather ſilky, ſending out from the ſides other finer and ſhorter threads. The threads are ſo much matted together, as to retain bubbles of air under the water. DILL.

Ditches,

Ditches, pools, and the ſides of ciſterns. A. March—June. Huds. Spring, Summer, and Autumn, and in ciſterns all the year. Dill.

CONFER'VA *canalicula'ris.* Threads equal, more branched towards the baſe. Linn. — Branches long. Huds. 593. *mill*

Dill. 4. 15.

Denſely crowded, deep green, ſoft and ſpongy or velvety to the touch. *Threads* and *Branches* ſlender, very much branched downwards, but little ſo towards the ends, 1 to 2 inches high; ſoft and herbaceous when taken out of the water, but when dry it acquires an almoſt ſtony hardneſs, from the mud adhering to it. Dill.

Clear brooks and mill-pond troughs. Dill. P. Jan.—Dec.

CONFER'VA *amphib'ia.* Threads equal, branched; when dry uniting into ſtiff ſharp points.— *amphibious*

Dill. 4. 17.

Fibres innumerable, denſely matted together, extremely fine, ſo that it is difficult to ſay whether it be branched or not, green. In ſtreams it grows 2 or 3 inches high, and thrown on the ſhore the threads unite in bundles at the top, and adhere ſo as to have a thorn-like appearance. In other ſituations it forms a kind of ſkin on the ground. Dill.

Banks of rivers, ditches, damp walls, Autumn and Winter; and in Summer in moiſt ſhady places. P. Jan.—Dec.

CONFER'VA *rig'ida.* Threads equal, very much branched, ſtiffiſh; leſſer branches alternate, very ſhort. Huds. 594. *rigid*

Dill. 4. 16.

Several ſtems ariſe from one common baſe, fixed to a ſtone. Dull green, tending to browniſh; moderately ſtiff, ſomewhat hairy. *Stems* branched on every ſide, and divided, particularly towards the ends, into fine fibres. Dill.

Clear water and where the ſtream is moſt rapid. In a ſtream on Hounſlow Heath, and in the Lug near Mortimer's Croſs, Herefordſhire. Dill. P. Jan.—Oct.

CONFER'VA *fœnicula'cea.* Threads equal, very much branched; branches and ſub-diviſions of the branches very long, ſcattered. Huds. 594. *fennel-leaved*

Dill. 2. 8.—*Barr.* 1123. 1.

Threads irregularly divided like the leaves of fennel; ſoft and greeniſh when young, browniſh and ſtiffer when old. Dill.

Iſle

Isle of Man on rocks covered by the tide. DILL.—Cornw. HUDS. A. June—Oct.

soft CONFER'VA *littora'lis.* Threads equal, very much branched, pretty long, roughish, LINN.—soft. LIGHTF. 979. *Dill.* 4. 19.—*(Dill.* 3. 13, *is C. albida.)*

From 4 to 12 inches long, yellowish green, with very numerous slender hair-like divisions; very soft and tender, but not gelatinous. DILL.

C. plicata. Hudf. ed. i. 484.

Rocks and stones in the sea. A. May—Oct.

flock CONFER'VA *tomento'sa.* Threads equal, very fine, very much branched. Branches undivided, long, crowded, brown. HUDS. 594.

Dill. 3. 13.

Browniſh red, especially when dry. Threads covered with a downy coat which it is difficult to remove; but this and its colour readily distinguish it. DILL.

Rocks, stones, and Fuci. A. May—Oct.

whitish CONFER'VA *al'bida.* Threads equal, very fine, very much branched. Branches undivided, bundled, whitish. HUDS. 595.

Dill. 3. 12.

Threads nearly an inch long, whitish. *Branches* alternate. *Little Branches* bundled, simple, whitish, rising nearly to the same height. HUDS. *n.* 13.—Pale green. *Threads* so fine as hardly to be discernible by the naked eye. Substance soft, both fresh and also when dry, like cotton. DILL.

Ditches, bogs, and pools.—Island of Selsey, Sussex. DILL. A. Oct.—May.

sea-green CONFER'VA *ærugino'sa.* Threads branched, soft, shorter than one's finger, green.—

Dill. 4. 20.

Colour an elegant cærulean green, which it retains when dry, so that this alone distinguishes it. *Threads* short, numerous, very fine, shining and silky when dry. DILL.

On Fucuses, common. A. June—Oct.

black CONFER'VA *ni'gra.* Threads equal, branched, very long. Branches alternate, with many clefts, very short. HUDS. 595.

Threads

Threads 5 inches long, ſtiffiſh, black. *Branches* bundled. HUDS. *n.* 15. Yorkſhire coaſt. A. May—Oct.

CONFER'VA *ſcopa'ria*. Threads proliferous, of the ſame length, rough with hair.— *broom*

Dill. 4. 23.—*J. B.* iii. 811. 2.—*Lob. obſ.* 648. 2, *repr. in ic.* ii. 249. 2, *Dod.* 475. 2, *and Ger. em.* 1571. 2; *and cop. in Park.* 1296. 3, *and again in Ger.* 1379. 2, *a good repreſentation of it, though not intended for it.*

Branches woolly and hairy, ſpreading in all directions; ſmaller branches nearly of equal length, finely toothed; dull green; reddiſh brown when old and dry. DILL.

Sea ſhores, common. A. May—Oct.

CONFER'VA *cancella'ta*. Threads branched; leſſer threads alternate, ſhort, with many finger-like diviſions.— *latticed*

Dill. 4. 22.

Colour pale, dirty. *Stems* giving out many crooked branches near 2 inches long, which are ſet with hair-like threads or tendrils, giving a roundiſh figure to the branch, with an appearance of hollowneſs within. DILL.—The lateral filaments retain air as if in ſo many veſicles. LINN.

Stones and rocks in the ſea, common. P. Jan.—Dec.

CONFER'VA *multif'ida*. Threads equal, very much branched. Little branches oppoſite, very ſhort, with many clefts. HUDS. 596. *tufted*

Threads 4 inches long, ſomewhat jelly-like, red. *Branches* oppoſite, very long. *Little Branches* very fine, remote, and appearing whorled. HUDS. *n.* 18.

Stones and rocks in the ſea on the coaſts of Hampſhire and Dorſetſhire. A. May—Oct.

*** *Threads growing into one another.*

CONFER'VA *reticula'ta*. Threads uniting ſo as to form a ſort of net-work.— *net*

Dill. 4. 14.—*Pluk.* 24. 2, *cop. in H. ox.* xv. 4. *row* 3. 4, *and Pet. gaz.* 51. 3.—*(Barr.* 1123. 2, *muſt be a different ſpecies.)*

Whole *plant* reſembling a net, green, the meſhes 4 to 6 cornered. RELH. *n.* 904.—Silky, ſhining, green. Threads ſolid, nearly as thick as a hair, connected ſo as to form a net, with meſhes of 4, 5, or 6 ſides. DILL.

Ditches and pools about Hounſlow. A. May—Oct.

**** *Threads hairy.*

ſponge CONFER'VA *ſpongioſa.* Threads equal, ſomewhat forked. Little branches very ſhort, undivided, tiled on all ſides. HUDS. 596.

H. ox. xv. 9. *row* 2. 6.

Shoots 4 inches long, growing in a circular form. *Branches* few, tough, black, wholly covered with greeniſh ſhort fibres. *H. ox. p.* 650. 6.

Rocks and ſtones in the ſea. P. Jan.—Dec.

horſe-hair CONFER'VA *equiſe'tifo'lia.* Knee-jointed, branched. Branches awl-ſhaped. Little branches forked, between whorled and tiled. LIGHTF. 984.—Very much branched. Branches pointed. Little branches whorled, tiled, forked. HUDS. 603.

H. ox. xv. 9. *row* 2. 7.

Size of a packthread, 3 or 4 inches long; red. *Stem* branched. *Branches* generally alternate, taper, lower ones the longeſt; theſe and their ſub-diviſions cloſely covered with whorls of ſhort forked hairs, lying one over another. Stems, branches, and joints red, the other parts diaphanous. LIGHTF. 985.

C. imbricata. Hudſ.

Rocks, ſtones, and Fucuſes in the ſea. P. Jan.—Dec.

verticillate CONFER'VA *verticilla'ta.* Threads branched, knee jointed. Little branches whorled, forked, bowed in. LIGHTF. 984. HUDS. 653.

Stems many from the ſame root. *Branches* irregular, the whole covered with cloſe whorls of fine, ſhort, elaſtic, forked hairs, curving inwards. LIGHTF. 984.

Among ſea rocks in baſons of water left by the tides. LIGHTF.

***** *Threads beaded like a neck-lace.*

horſe-tail CONFER'VA *fluviat'ilis.* Threads undivided, briſtle-ſhaped, ſtraight. Knots thicker than the threads, angular.

Dill. 7. 47.—*Vaill.* 4. 5.—*Pluk.* 193. 7, *cop. in Pet.* 106. 6.

Stems ſeveral from one common origin, 3 or 4 inches long, thickeſt below, with few or no branches; ſpaces between the knots, oblong. Smooth, dull brown purple. DILL.

Rivers. Near Bangor. BREWER *in Dill.* 39.—Yorkſhire, Cumberland, and Weſtmoreland. HUDS. 597. P. Jan.—Dec.

β HUDS.—Green, contracted at the joints.

Dill. 7. 48.

Reſembling

Reſembling the above, but dull green, not ſlippery, rather ſtiff, contracted at the joints. DILL.

Near Ludlow, Shropſhire, at the New Bridge. DILL. 39.

CONFER'VA *atra*. Threads necklace-like, briſtle-ſhaped, very much branched, browniſh black. Joints globular, almoſt jelly-like. HUDS. 597. *bead*

Dill. 7. 46.

Spreading. *Threads* very ſlender, 2 inches long; knots very numerous, ſmaller towards the ends. DILL.

Springs and brooks. In the Iſle of Man. BREWER *in Dill.* 39.—Near Martin, Surry. HUDS. P. May—Dec.

CONFER'VA *gelatinoſa*. Threads branched; necklace-ſhaped. Joints globular, jelly-like. LINN.—Threads thread-ſhaped. HUDS. 597. *frog-ſpawn*

Weiſ. at p. 33. *t.* 1.—*Dill.* 7. 42.

One to 3 inches long, dull reddiſh brown or blackiſh, pellucid, gelatinous, very ſlippery. *Branches* divided and ſub-divided, formed of globules ſtrung together like a necklace. DILL.

In ſprings and rivulets of pure and limpid water. In a large clear ſpring in Godalmin near the high road, and near Chicheſter, Suſſex. DILL.—Between Greenwich and Woolwich. HUDS.

A. Jan.—Dec.

β HUDS.—Green.

Dill. 7. 43.—*Vaill.* 7. 6, *knots not expreſſed, if the plant.*

Smaller than α and thinner; ½ to 1½ inch long; greeniſh. DILL.

In a brook on Enfield Chace. DILL. Spring and Summer.

γ HUDS.—Pale green.

Dill. 7. 44.

Grows on dead fibres of Fontinalis, and on the veins and nerves of dead leaves. Globules leſs cloſely ſet, very tender, pellucid, pale pleaſant green. DILL.

In the ſame rivulet with β, but in places where the ſtream ran more rapidly. DILL.—In ſtagnant waters near Mancheſter. HARRISON *in Dill.*

δ HUDS.—Blue.

Dill. 7. 45.

Grows on ſeveral aquatic plants, and ſometimes on ſtones; branched, ſlender, globules nearly equal in ſize, blue. DILL.

Small lakes or pools at the foot of the mountains near Llanberris, and in ditches in Clifton Moſs, 3 miles from Mancheſter. DILL.

Aug.

****** *Threads jointed.*

thread CONFER'VA *capilla'ris.* Threads jointed, not branched; joints alternately compreſſed.—

Fl. dan. 771. 2.—*Dill.* 5. *e*5. *A.*

Threads very long, winding, entangled, not branched; joints numerous; floating in the middle of the water. Dark yelloviſh green; when dried whitiſh with dark green joints. DILL.

Pools and ſhallows where the ſea water is left on the ebbing of the tide. Kent, Suſſex, and Iſle of Man. DILL. A. March—Oct.

β LIGHTF. 988.—Smaller and ſhorter.

Dill. 5. 25. *B.*—*H. ox.* xv. 4. *row* 3. 3.—*Pluk.* 84. 9.

Finer, and ſhorter than α, 12 to 18 inches long; not branched. DILL.

In freſh water. In Hackney river. DILL.

coralline CONFER'VA *coral'lina.* Threads jointed, forked. LINN.—Joints thicker at the end. HUDS. 598.

Ellis in Ph. tranſ. lviii. *f. F. at p.* 426.—*Dill.* 6. 36.—(37, *is C. ſetacea.)*

Of a fine ſcarlet when freſh. *Fructifications* in whorls at the ends of the joints. ELLIS *ib.*—Slippery, very tender, whitiſh, or fine red; always dividing and ſubdividing into forks; almoſt vaniſhes in the attempt to dry it. DILL.—Conſiſts of many branches, equal in ſize, and breaking into ſub-diviſions, ſometimes 5 or 6 inches high. When young it is compoſed of very pale green tranſparent fibres; as it approaches towards maturity the ſepta appear more diſtinct, the joints become more rounded, and replete with a ſcarlet liquor which in a ſhort time ouſes through the tender ſkin, but it ſhews its joints very diſtinctly even after the diſcharge of this liquor. A very ſingular inſtance of irritability appeared in this plant upon immerſing it when quite freſh, into freſh water. After it had been in the water a few minutes, ſeveral fibres were obſerved to move in an horizontal direction with a quick convulſive twitch, then to ſtop ſuddenly. This they continued to do for ſome length of time. I repeated this experiment ſeveral times, and the ſame effect was produced, provided the plant was freſh. At firſt I attributed it to a ſeparation of air from between the joints of the Conferva, but this ought to have been ſeen when riſing up to the ſurface of the water. I tried the experiment in ſalt water, but did not obſerve the ſame effect. Major VELLEY.

Conferva geniculata. Ellis ib. p. 425.

Stones and rocks in the ſea. On ſtones at Cockbuſh, on the Suſſex coaſt, and on the Iſle of Inys y moch, near Bangor. DILL.—Near Brighthelmſtone, Suſſex. ELLIS. A. May—Oct.

CON-

CONFER'VA *ſeta'cea.* Threads jointed, forked. Branches very long, briſtle-ſhaped. Joints cylindrical. Huds. 599. *ſetaceous*

Dill. 6. 37.

Sometimes forked, ſometimes irregularly divided, diviſions more or leſs frequent, but I have never obſerved it entire. Colour reddiſh purple, or greeniſh red. Dill.

Stones and rocks in the ſea. A. May—Oct.

CONFER'VA *elonga'ta.* Threads jointed, branched. Branches forked, long, briſtle-ſhaped. Joints very ſhort. Huds. *ed.* i. 484. *ed.* ii. 599. *pointed*

Threads 9 inches to a foot long, of the thickneſs of fine packthread, ſmooth, browniſh purple, branched at the baſe. *Branches* very long. Huds. *n.* 27.

Stones and rocks in the ſea on the coaſt of Devonſhire, Cornwall, Suſſex, and Iſle of Man. A. April—Oct.

CONFER'VA *cilia'ta.* Ellis p. 425. — Threads jointed, forked, with forceps at the end. Joints with a whorl-like fringe. Lightf. 998.—Threads jointed, forked, the points approaching. Joints fringed at the ends. Huds. 599. *fringed*

Ellis in Phil. Tranſ. vol. 57. *p.* 425. *t.* 18. *f. H. h.*

On the finer kinds of Fuci, A. May—Sept.

CONFER'VA *polymor'pha.* Threads jointed, branches bundled. Linn.—Threads ſomewhat forked, riſing to the ſame height. Huds. 599. *palmated*

Ellis Phil. tranſ. vol. 57. *t.* 18, *at p.* 426.—*Dill.* 6. 35.—*Barr.* 1301, *cop. in Pet. fuc.* 1. 15.—*Pluk.* 47. 10.—*Fl. dan.* 395.—*Barr.* 1290. 1 *and* 2.

Not ſo long as the other ſpecies but more bearded; with numerous *branches* riſing from the baſe which are very much branched. *Flowers* and *fruit* growing on diſtinct plants. Linn.—*Capſules* tranſparent. *Seed* readily obſervable if examined in water with a microſcope. *Barren Flowers* in catkins. The capſules containing the ſeeds are placed in the forks at the termination of the branches. They are almoſt tranſparent, and when magnified the ſeeds are viſible within them if the plant is kept moiſt with water. The flowers furniſhed with chives are collected into catkins, which ſtand on the terminations of the branches, not in the forks Ellis *ib.*

On Fuci, eſpecially on F. nodoſus. P. Jan.—Dec.

red CONFER'VA *ru'bra.* Threads jointed, very much branched. Branches briſtle-ſhaped. Joints cylindrical, ſhort. HUDS. *ed.* i. 486. *ed.* ii. 600.

Ellis in Phil. Tranſ. vol. 57. *t.* 18. *e. E.—Dill.* 6. 38.—*Pluk.* 48. 3?

Fructifications reſembling a ſtrawberry or raſpberry, ſurrounded with a leafy empalement. ELLIS *ib.—Fructifications* nearly ſitting, ſolitary, roundiſh, with an awl-ſhaped thread beneath each. HUDS. *n.* 31.—About 4 inches high, divided and ſub-divided into numerous branches; colour reddiſh. DILL.

C. noduloſa. Lightf. 994.

Rocks, ſtones, and Fucuſes in the ſea. A. May—Oct.

purple CONFER'VA *purpuraſ'cens.* Threads jointed, very much branched. Branches crowded. Joints cylindrical, long. HUDS. 600.

Dill. 7. 41.—*Pluk.* 168. 3?

Divided like a ſhrub; ſlippery, red. Diviſions and ſub-diviſions innumerable, hair-like, ſhort, ſlender, compoſed of minute globules, It retains water like wool. DILL.

Stones and Fuci in the ſea. A. May—Oct.

knotted CONFER'VA *nodulo'ſa.* Threads jointed, very much branched. Joints oblong, thoſe of the leſſer branches roundiſh, bead-like. HUDS. 600.

R. ſyn. 2. 3, *at p.* 60, *cop. in Dill.* 7. 40.—*(Dill.* 6. 38, *is C. rubra.)*

Fructifications lateral, ſitting, roundiſh, cluſtered. HUDS. *n.* 33.—A very elegant plant. Adheres to ſtones, or to ſmall Fuci. Spreading, variouſly branched; globules exactly ſpherical, gradually ſmaller towards the ends of the branches; gelatinous, ſlippery, pellucid, red, or red purple. DILL.—Often attached to other ſea plants. *Branches* not in any apparently regular order, but throwing out ramifications of an equal ſize, ſo that it is not eaſy to trace out any primary ſtem. It varies in ſize, is very much branched towards the extremities, which terminate in forks. The ſepta of the joints towards the ſummit of the branches are deeply tinged with red, and appear beautiful. Joints ſwollen in the lower part of the ſtem. Major VELLEY.

On the Suſſex coaſt between Brackleſham and Cockbuſh, and in the Iſle of Man. DILL. A. May—Oct.

β Threads finer; joints hardly protuberating. LIGHTF. 995.

CON-

CONFER'VA *diaph'ana*. Threads jointed, very much branched. Branches forked, like forceps at the end; the partitions very red; the joints ſemi-tranſparent. LIGHTF. 996. *dotted*

Fl. dan. 951.

The whole plant ſeems to the naked eye to conſiſt only of a branched ſeries of ſmall red dots. LIGHTF. 996.

Rocky ſtones in baſons of water left by the tides, and often adhering to Fucuſes. LIGHTF.

CONFER'VA *pellu'cida*. Threads jointed, very much branched. Branches oppoſite. Joints cylindrical, very long. HUDS. 601. *pellucid*

Threads nearly 6 inches long, ſhining, tranſparent, greeniſh purple. *Branches* moſtly 3-forked, joints equal. HUDS. *n.* 34.

Rocks and ſtones in the ſea on the coaſt of Devonſhire, Cornwall, Hampſhire, and Suſſex. A. May—Oct.

CONFER'VA *vagabun'da*. Threads jointed, winding; branches and diviſions of the branches rather ſhort. LINN.—Threads jointed, very much branched. Little branches very ſhort, horizontal. HUDS. 601, *ſpreading*

Dill. 5. 32.

Very much branched, the ultimate branches dividing into extremely minute diviſions and ſub-diviſions; pale green; joints ſo ſmall towards the extremities as hardly to be ſeen with a common eye-glaſs. DILL.—Not rooted. LINN. *ſuec. n.* 1177.—*Joints* hardly viſible to the naked eye, eſpecially in the finer branches.

Salt water marſhes and ditches. A. April—Oct.

CONFER'VA *rupeſ'tris*. Threads jointed, very much branched, green. LINN. — Branches and little branches rather ſhort, crowded. HUDS. 601. *rock*

Fl. dan. 948.—*Dill.* 5. 29.—*Pluk.* 182, 6.

Interſections of the joints hardly viſible to the naked eye. RAY ſyn. 60. n. 19.

Rocks and ſtones in the ſea, plentifully. P. Jan.—Dec.

β HUDS. *n.* 36.

Dill. 5. 28.

Two or three inches long, dull green; threads ſo fine as to require an eye-glaſs to obſerve the joints. Diviſions principally towards the ends, which terminate in ſhort and extremely ſlender hairs. DILL.

On the keels of boats at Godſtow. BOBART *in Dill.* 27.

CON-

ſilky CONFER'VA *ſeric'ea.* Threads jointed, very much branched, pretty long; green. Little branches crowded, very fine. HUDS. 601.

Dill. 5. 33.—*Fl. dan.* 651. 1.

Four to 8 inches high, divided into very numerous, crowded ſhort branches, fine green in freſh, pale green in ſea water. DILL.

Rocks and ſtones in the ſea. Iſle of Shepey. In the New River near London, and Hounſlow Heath. P. Jan.—Dec.

cluſter CONFER'VA *glomera'ta.* Threads jointed, little branches rather ſhort, with many clefts. LINN.—Threads very much branched. Little branches very ſhort. HUDS. 602.

Dill. 5. 31.—*H. ox.* xv. 4. *row* 3. 2.—*Fl. dan.* 651. 2.—*Park.* 1261. 1.—*(Dill.* 5. 28. 29, *in ſyſt. pl. is an error of Reichard's.)*

From 4 to 12 inches long, or more; green. *Branches* numerous, divided and ſub-divided, the mid-rib ſtill thicker than the other parts, but the extremities ending in numerous, hair-like, ſhort, and very fine diviſions, ſo as to have a buſhy appearance. DILL.

Brooks and ſprings. A. April—Oct.

tawny CONFER'VA *ful'va.* Threads jointed, branched. Branches and leſſer branches very ſhort, tawny. HUDS. 602.

On ſtones and Fucuſes on the Yorkſhire coaſt. A. May—Sept.

dark CONFER'VA *nigreſ'cens.* Threads jointed, very much branched. Branches very long. Leſſer branches ſomewhat bundled, very ſhort, awl-ſhaped. HUDS. 602.

Threads 6 inches long, forming a turf, of a ſlight tinge of blackiſh hue, black when dry, ſmooth. *Branches* alternate. HUDS. *n.* 40.

Rocks and ſtones in the ſea. Near St. Ive's, Cornwall, and Exmouth, Devonſhire. P. Jan.—Dec.

brown CONFER'VA *fuſ'ca.* Threads jointed, very much branched. Little branches alternate, undivided. HUDS. 603.

Threads 3 to 4 inches long, blackiſh brown or reddiſh; ſmooth. *Branches* alternate, long. *Little branches* ſhort, diſtant. *Fructifications* terminating and lateral, ſitting, ſmall, roundiſh, cluſtered. HUDS. *n.* 41.

Stones and rocks in the ſea. A. June—Oct.

CON-

CONFER'VA *fucoi'des*. Threads jointed, very much branched. Leſſer branches with many clefts, the lowermoſt bundled, bearing fruit. HUDS. 603. *fucus*

Threads a foot long, ſmooth, of a blackiſh reddiſh hue. *Branches* alternate; *little branches* ſomewhat forked. *Fructifications* terminating, radiated, ſmall. HUDS. *n.* 42.

Rocks, ſtones, and fucuſes in the ſea. P. Jan.—Dec.

CONFER'VA *villo'ſa*. Threads jointed, branched. Joints woolly. Branches moſtly undivided, diſtant. HUDS. 603. *hairy*

Threads 6 inches long, green, ſemi-tranſparent. *Branches* long, briſtle-ſhaped; joints woolly, or beſet with very ſhort very fine little branches in whorls. HUDS. 603.

Stones and rocks in the ſea, Cornwall, but rather rare.

A. May—Sept.

CONFER'VA *coccin'ea*. HUDS.—Threads jointed, very much branched, compreſſed. Branches more than doubly compound, alternately winged. Fructifications on diſtinct plants. LIGHTF. 996.—Threads branched. Branches alternate, doubly winged; ſegments with many clefts. HUDS. 603. *ſcarlet*

Ellis in Phil. Tranſ. vol. 57. pl. 18. c. C. d. D.—Pluk. 48. 2. —(Ellis ib. is clearly a diſtinct ſpecies.)

From 3 to 6 inches high, bright red, or purple. Conical like a fir tree in its general ſhape. Chives and capſules on diſtinct plants; the former growing on ſhort pedicles fixed to the minute ſegments of the branches; the latter ſitting, egg-ſhaped, on the ſides of the extreme ramifications.

Rocks, ſtones, and Fuci in the ſea. P. Jan.—Dec.

CONFER'VA *penna'ta*. Threads jointed, branched. Branches crowded, trebly winged, ſegments awl-ſhaped. HUDS. 604. *pinnated*

Buſhy like the tail of a fox. RAY ſyn. 59.

Stones and rocks in the ſea, between Dover and Margate, and the Iſle of Walney, Lancaſhire. P. Jan.—Dec.

CONFER'VA *paraſit'ica*. Threads jointed, branched. Branches doubly winged. HUDS. 604. *feathered*

Threads an inch long, brown. *Branches* nearly an inch long; little wings pointed. HUDS. *n.* 47.

On

On Fucuſes on the coaſts of Yorkſhire, Cornwall, and Dorſetſhire. common.

Moor-ball CONFER'VA *ægagro'pila.* Threads jointed, very much branched. Branches extremely crowded, proceeding from a center and forming a round ball.—

Green; of the ſize of a walnut, exactly ſpherical, looſe, not adhering to ſtones. *Threads* knotted, green, the knots brown, growing as cloſe as the balls found in the ſtomachs of animals, no ſolid body in the center from whence they might be ſuppoſed to ſhoot. LINN. *ſuec. n.* 1169.—Bright green, in balls of an irregularly ſpherical figure, from 1½ to 3 inches diameter, and from their external to the internal ſurface about ¼ inch, moſt compact neareſt the ſurface, covered on the outſide with ſhort villi. WATSON *in Phil. Tranſ. vol.* 47. *p.* 499.

In mountainous lakes. Wallingfen Moor, Yorkſhire. In a lake 12 miles weſt of Hull, the water of which is ſometimes rendered a little brackiſh at high tides from the Humber with which it communicates. In many places the bottom of the lake is covered with theſe balls like a pavement, and many are left dry on the ſhores every ſummer. Mr. DIXON *in Ph. Tranſ. ib.*—[In a large pool called the White Sich, on a common between Shiffnall and Newport, Shropſhire. WITH.] P. Jan.—Dec.

1324. BYS'SUS.

Fibres ſimple; uniform; like ſoft wool, or duſt.

Ess. CHAR. *Conſiſting of an exceedingly ſimple down or powder.*

* *Thread-like.*

paper BYS'SUS *Flos-a'quæ.* Threads feathered, ſwimming upon water.—

In the middle of ſummer it riſes and mixes with the water which in conſequence becomes greeniſh and turbid, hardly drinkable for ſeveral days, but every night it ſubſides towards the bottom. BERGIUS *in Linn. ſuec. n.* 1182.—Weis ſays it is only a matter formed of the particles of aquatic plants diſſolved by putrefaction, which being light riſe to the ſurface of the water.—But I have reaſon to believe that it will prove to be a Conferva, perhaps the C. bulboſa. Obſerving a pond in the ſtate of flowering, as the country people term it, I examined ſome of the water, but the particles floating in it

it were ſo minute that even with the aſſiſtance of a very good microſcope, I could not ſatisfy myſelf as to their figure or ſtructure. Two or 3 weeks later in the ſpring I found *threads*, not jointed, not branched, either ſtraight or coiled up like a cork-ſcrew. Some of this water kept in a glaſs jar, after 2 or 3 weeks more let its contents ſubſide, and then it began to appear like a Conferva. The threads ſoon became much larger, have now a jointed appearance, but at the time of writing this are ſtill too young to throw out branches. WITH.

Stagnant waters. A. May—Aug.

BYS'SUS *phoſpho'rea*. Downy, violet coloured, growing on wood.— *violet*

Mich. 90. 3.—*Dill.* 1. 6.—*Mich.* 90. 8.

Colour vivid, very beautiful and delicate, much finer than the fineſt wool. WITH.

On the bark of trees and rotting wood. A. Oct.—May.

BYS'SUS *ærugino'ſa*. WEIS 18.—Threads ſimple, very fine, of a verdigris colour. HUDS. 605. *verdigris*

Dill. 1. 7.

Conſiſts of an extremely fine woolly ſubſtance cohering together, but ſo fine that it is not eaſy to diſtinguiſh the fibres. DILL.—Its colour diſtinguiſhes it. Forms an extremely thin cruſt, conſiſting of powdery filaments extremely minute, collected into little heaps. WEIS.

On the ſtems of dead fern, COLE *in Dill.*—and rotten wood. HUDS.—[On the pillars in Roſlin Chapel, near Edinburgh. It had not been found before, ſince the time of Dillenius. Dr. J. E. SMITH.]

A. Aug.—April.

BYS'SUS *veluti'na*. Hair-like; green. Threads branched.— *velvet*

Mich. 89. 5.—*Dill.* 1. 14.—*(Fl. dan.* 718. 2, *is ſaid in the index to be this plant, but in faſc.* xii. *p.* 8, *it is characteriſed as being very white.)*

Spread upon the ground like a fine green carpet. Conſiſts of filaments ſo fine as not to be diſtinguiſhed by the naked eye, crowded and matted together, branched and not branched, extremely ſhort but moſtly upright like the pile of velvet. DILL.

On the ground in the ſhade, and the moiſt bark of trees.

A. Oct.—June.

BYS'SUS

purple BYS'SUS *purpu'rea.* Purple, hair-like, perennial. LIGHTF. 1000.—Threads ſimple, and branching, red. HUDS. 605.

Mich. 90. 2.

Very like a piece of crimſon pluſh or velvet. Perhaps only a variety of *B. Jolithus*, and when moiſtened yields a violet ſcent like that. LIGHTFOOT.

Byſſus rubra. HUDS.

Stones and rocks, eſpecially on ſuch as are near the ſea.

P. Jan.—Dec.

blackthreaded BYS'SUS *ni'gra.* Threads powdery, branched, black. HUDS. 606. LIGHTF. 1003.

Dill. 1. 18.—*Mich.* 90. 5, *cop. in Gled.* 1. 1, *Byſſus* 2.

Threads ſhort, very black, crowded together. DILL.

Rocks and larger ſtones in the North of England and Wales.

P. Jan.—Dec.

golden BYS'SUS *au'rea.* Hair-like; powdery. Fructifications ſcattered. Threads ſimple and branched, LINN.—and powdery. HUDS. 606.

Dill. 1. 16.—*Mich.* 89. 2, *cop. in Gled.* 1. *Byſſus f.* 1.—*Fl. dan.* 718. 1.—*Pet. gaz.* 15. 3.

Grows in raiſed tufts. *Threads* very fine, very ſhort, branched or entire, ſoft, crowded and matted together like a fleece; ſaffron coloured, changing to greyiſh when dry. DILL.

On the ſides of caverns. P. Jan.—Dec.

tawny BYS'SUS *ful'va.* Threads branched, tawny. HUDS. 606. LIGHTF. 1002.

Dill. 1. 17.

Threads ſtiffer and longer than in *B. aurea*, more fibrous, more ſcattered, retaining its colour when dry. DILL.

Moiſtiſh rotting wood, and tubs uſed to catch rain water.

P. Jan.—Dec.

ſaffron BYS'SUS *barba'ta.* Threads nearly upright, the ends branched, nearly of a length, tawny. HUDS. 606.

Dill. 1. 19.—*Mich.* 90. 1.—*(Pluk.* 184. 10, *is regarded by Dill. as a ſpecies of Hydnum, figured by Buxb.* i. 56. 2.)

When young yellow, ſhort, denſely compacted, ſpreading wide, reſembling a fleece of wool. When older it attains the height of 2 inches, grows upright, but cloſely crowded together, the top of each filament dividing into numerous very fine fibres ſo as to appear downy.

downy. It is then tawny or ſaffron coloured. The growth of each year is marked by a tranſverſe line. DILL.

Rotten wood and rotten trunks of trees. A. Jan.—Dec.

BYS'SUS *can'dida.* Threads very much branched. Little branches bundled, whitiſh. HUDS. 607. LIGHTFOOT 1003. *white*

Dill. 1. 15.—*R. ſyn.* 23, *at p.* 477.

Subſtance tender, woolly, cloſely preſſed to the ſurface on which it grows; white, or livid, or yellowiſh. From a broadiſh woolly and mucilaginous baſe ariſe many ſlender branches, ſpreading more in width than in height; elegantly divided and ſub-divided, the extremities ending in capillary fibres or an expanded ſurface. DILL.

On rotten leaves, rotten wood, and half rotten leather.

A. Sept.—April.

BYS'SUS *ſep'tica.* Hair-like, very ſoft, parallel, very brittle, pale. LINN.—Threads very long, very fine, *branching*,* matted. HUDS. 607. *flaky*

Dill. 1. 9.—*Mich.* 89. 9.

Threads like cotton, finer than thoſe of a cobweb, grey white, not viſcid; burns like touchwood. LINN.—So tender and light that the breath will diſperſe it, pure white, like very fine wool, threads not branched; when handled ſeems to diſſolve into water from the moiſture affixed to it. Though ſo very tender it remains long in its native ſituation. DILL.—It grows moſt luxuriantly on bins and wooden ſhelves in cellars where wine has been ſpilt, hanging down in form of a jelly bag, or of a cylinder with a globe at the end, to the length of a foot or more. It is eaſily cruſhed, and then ſeems principally to conſiſt of water, adhering to the fingers. WITH.

Damp cellars and vaults. P. May—Dec.

Diſſolves and deſtroys the hardeſt wood. LINN.

β HUDS.—*Dill.* 1. 12.

Pale yellowiſh or reddiſh, changing to glaucous green, then red brown and at length blackiſh, in colour, ſubſtance and ſoftneſs ſomewhat reſembling the ſkin of a mouſe. At firſt it is flat, but one layer growing upon another, it is gradually raiſed. It conſiſts of fibres, too fine to be obſerved by the naked eye, at firſt upright, afterwards matted together. It generally grows in a circular form. DILL.

On wine caſks.

BYS'SUS

* Micheli, cited by Linnæus, and Hudſon, and Dillenius, referred to by Hudſon, deſcribe them as *not branched*. Hudſon gives two ſynonyms from Ray. The firſt appears to be the plant of Mich. and Dill. the ſecond, which is deſcribed as *ramoſiſſimus* ſeems to be what fell under Mr. Hudſon's immediate inſpection. Mr. WOODWARD.

briſtle BYS'SUS *crypta'rum.* Hair-like; perennial; aſh-coloured; tough.—

Dill. 1. 20.

Threads ½ inch long, thick as a hair, dirty white, brittle, not branched, crowded, diverging from a centre. DILL.

On the ſides of caverns in limeſtone rocks, and on plaiſtered walls in vaults. P. Jan.—Dec.

** *Powdery.*

black-powder BYS'SUS *antiquita'tis.* Powdery; black.—

Hoffm, enum. 3. 5, *right hand half.* — *(Dill.* 1. 18, *cited in Linn: mant.* 510, *is B. nigra, as is the B. antiquitatis of Weis.)*

Black, reſembling irregular dots of ink made with a pen, ſolitary or confluent, very black when wet, greyiſh black when dry. When magnified they appear like ill-formed warts, crowded together. HOFFMAN.

Old walls, rocks, and large ſtones, common. P. Jan.—Dec.

ſtone BYS'SUS *ſaxat'ilis.* Powdery; aſh-coloured; covering the ſurface of rocks.—

It will grow upon the bareſt rocks and ſtones.—Hoffman thinks this differs from the preceding in age only. It is found on rocks and ſtones of every kind which have been long expoſed to the air, giving them a greyiſh colour through the whole year, but in itſelf ſo minute as to be hardly diſtinguiſhable. LINN.

Limeſtone rocks and ſtones in Weſtmoreland, Cumberland, Yorkſhire, and Derbyſhire. P. Jan.—Dec.

red BYS'SUS *ſo'lithus.* Powdery, blood-coloured, growing on ſtones.—

Mich. 89. 3.—*Fl. dan.* 899. 1.

Threads nearly conical, on a very thin, mealy, ſaffron-coloured cruſt, which when rubbed ſtains the hands of a ſaffron-colour. It has a very ſtrong ſcent of violets, eſpecially after rain. LINN. *ſuec. n.* 1178.—*Cruſt* very red when young, when old, yellowiſh green. *Threads* in its young ſtate hardly diſcernible. HALLER.

Rocks and ſtones of quartz in moiſt ſhady places. P. Jan.—Dec.

green BYS'SUS *botryoi'des.* Powdery; green.—

Hoffm. enum. 1. 2.—*Dill.* 1. 5.—*Fl. dan.* 899. 3.

Conſiſts of dark green globules crowded together, the ſize of tobacco ſeed, appearing ſomewhat gelatinous in the microſcope. DILL.—Covering the earth, or ſtones with an intenſe green colour, often with a caſt of yellow, cracking when dry into irregular polygons. Globules when magnified, ſemi-pellucid, ſprinkled with a yellowiſh powder.

powder. When old, the whole cruſt changes to a rude gelatinous maſs. HOFFMAN. enum. 6.

Bark of trees, on walls, and on moiſt and ſhady ground.

P. Jan.—Dec.

BYS'SUS *candela'ris.* Powdery; yellow; growing upon wood.— *yellow*

Hoffm. 1. 4.—*Dill.* 1. 4.—*Fl. dan.* 899. 2.

Forming a very thin and wide ſpreading coat on the ſubſtances on which it grows; yellow or brimſtone coloured; on rocks thicker and of a lemon colour. The microſcope ſhews it to conſiſt of roundiſh or oval globules, ſingle or in cluſters, ſomewhat hairy, falling into a very fine deep yellow powder. Its colour ſometimes changes to tawny or greeniſh. HOFFMAN enum. 3.—It has been obſerved to continue on the ſame ſpot, and apparently in the ſame ſtate, for ſeveral years.

Old pales, bark of trees, rocks, and walls, in all parts of the world. A. Sept.—June.

BYS'SUS *inca'na* Powdery; hoary, like ſcattered meal.— *mealy*

Dill. 1. 3.—*Hoffman. enum.* 1. 6.

It has the appearance of a very ſmall cruſtaceous Lichen. LINN. *ſuec. n.* 1188.—Even through an eye-glaſs it appears only as a ſhapeleſs powder of a greyiſh white colour, ſometimes intermixed with green and yellow. DILL.—When magnified it appears to conſiſt of particles of different figures, egg-ſhaped, oblong, compreſſed, open at the top, pouring out a reddiſh powder. From theſe ariſe other larger particles, folded at the margin, ſending out numerous oblong corpuſcles, riſing up and ſpreading, turned back at the edge and throwing out a yellow meal. HOFFM. enum. 8.

Gravelly ſoil on the ſides of ditches, near high roads, on decayed moſs and wet trunks of trees in very ſhady ſituations. A. Oct.—June.

BYS'SUS *lac'tea.* Between powdery and cruſtaceous; very white.— *white-waſh*

Hoffm. enum. 1. 3.—*Dill.* 1. 2.—*Fl. dan.* 840. 4.

Very nearly allied to *Lichen corallinus.* HUDS. *n.* 19.—Follows the figure of the plants on which it grows, giving them the appearance of having been white-waſhed. DILL—Cruſt thin, white, brittle, when on moſs; thick, ſoft, mealy, when on bark. Under the microſcope appears to conſiſt of heaps of ſpherical globules ſticking together, of a greyiſh colour, and duſted with a white powder; When wet, it is often greeniſh, and when rubbed between the fingers has an unpleaſant ſmell. HOFFMAN enum. 7.

On

On old decayed moſſes and ſmall branches of heath. Wales and North of England and Scotland. P. Jan.—Dec.

FUN'GI. Funguſſes.

MERU'LIUS. (HALLER.)

Ess. Char. Pileus with gills or veins underneath, of the ſame ſubſtance with the reſt of the plant.*

* *With a ſtem.*

powdery * MERU'LIUS *purpu'reus.* Stem funnel-ſhaped, hollow, expanding at the top like a hollow pileus. Gill-like veins branched, purple.—

Fl. dan. 384.—*Schæff.* 165. 166.—*Bolt.* 103.—*Bull.* 150.—*Vaill.* xiii. 2. 3.

Plant hollow, gradually enlarging upwards, greatly expanded at the top; border ſcolloped, turned back, 2 to 3 inches high, 1½ diameter at the top. *Inner ſurface* dark dirty brown, ſmooth like velum. *Outer ſurface* decorated with riſing branchy veins, covered with a bloomy down or powder. Subſtance tough and elaſtic. BOLT.

Peziza cornucopioides. BOLTON. BULLIARD. OEDER.—Elvela cornucopia. SCHÆFFER.

Grows ſingle or in cluſters, in dry woods.

funnel ſhaped * MERU'LIUS *infundibulifor'mis.* (BOLT.)—Stem funnel-ſhaped, hollow, expanding at the top like a hollow pileus. Gill-like veins branched, ſilvery grey.—

Bolt. 34.—*Bull.* 208. 465. 2, *differ but little.*—*(Not Bull.* 473, *nor Battar.* 23. c.—*Vaill.* xi. 10, *is M. Cantharellus.)*

Stem about 2 inches from the root to the gills often flatted, or fluted; hollow quite from the root, and running inſenſibly into the pileus, as the tube of a Convolvulus does into its border. *Gills* branched like nerves, of the ſame ſubſtance with the plant. The whole plant is tough, elaſtic, of a greyiſh mouſe-colour. BOLT.

Ag. infundi buliformis. BOLT.—Ag. cornucopioides. BULLIARD.

In Lee-bank-Shroggs near Halifax, and ſeveral other places. BOLT. October, 1786.

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* Gills thick, not different from the ſubſtance of the plant. LINN.

* MERU-

* MERU'LIUS *cornucopioi'des*. (BOLT.)—Stem twiſted. Pileus lobed. Gills decurrent, diſtant, 3 or 4 in a ſet.— *cornucopia*

Bolt. 8. *(Not Schæff.* 9, *nor yet* 243, *though that ſeems to be a Merulius. Not Battar.* 18. *H. nor* 20. *B.)*

About 5 or 6 inches high; ſtems 4 or 5 from the ſame root, near ½ inch diameter. *Pileus* 3 inches over, thin, tough, ſplit into ſegments, waved and curled at the edge. The whole plant tough, elaſtic, leathery, of a dead buffy brown or cinnamon colour. BOLT.

Mr. Bulliard has figured what he has called Agaricus cornucopioides, ſee pl. 208, different from the above though of a dead brown colour, but the gills are branched, and the hollow of the pileus extends down to the root, ſo that there is properly no ſtem, or if you had rather, ſay no pileus, the expanſion of the hollow ſtem at its top ſupplying the place of a pileus, and bearing the Gill-like veins on its outer ſide. This plant ſeems decidedly a Merulius.

Shady woods about Halifax, not plentiful. In a little wood near Brakenbed farm, in Ovenden. Sept. 3d, 1787.

* MERU'LIUS *ſquam'ula*. Stem briſtle-ſhaped. Pileus whitiſh, gently convex. Gills a few plaits.— *minute*

Batſch. 84.

Stem reddiſh brown, ſlender as a briſtle, very tender. *Pileus* dirty yellow white, gently convex. *Gills* a few imperfect plaits. Hardly 1-10th of an inch in height, and ſlender in proportion. BATSCH.

Found by Batſch in the Autumn, affixed to a dead leaf of the Poplar. Communicated to me by Mr. Relhan, who found it in Madingly Wood.

MERU'LIUS *Cantharel'lus*. Stem ſolid, often compreſſed. Gills decurrent, branched.—anaſtomoſing. *Chanterelle*

Bull. 62.—*Bolt.* 62.—*Batſch* 120.—*Schæff.* 82—206.—*J. B.* iii. 832.—*Fl. dan.* 264.—*Vaill.* xi. 9. 10. 11. 14. 15.—*Battar.* 14. *A. B. C.*—*Batſch.* 37.—*Ger.* 1384. 2.—*Trag.* 940.—*Cluſ.* ii. 270. 2, *the bottom of the page.*

GILLS decurrent, fleſhy, branched, anaſtomoſing. Subſtance the ſame as that of the ſtem and the pileus; very different from the gills of Agarics. In the microſcope they appear covered with very minute granulated particles.

PILEUS concave, curled at the edge, often very irregular, 1 to 3 inches over. *Fleſh* ſpongy, whitiſh.

Stem ſolid, tapering downwards, often compreſſed, and then rarely central; 1 to 2 inches high, ¼ to ½ of an inch in diameter.

Obs. Whole plant yellow as the yolk of an egg. It does not ſoon rot and decay as the Agarics do, nor is it much liable to the attacks of inſects. It is very apt to be ſportive and monſtrous in its growth, as may be ſeen in the following figures, Batſch 34, fan-ſhaped, Vaill. 12. 13, very much curled, &c.

Pileus turban-ſhaped, flattiſh, edge moſtly bent in. *Gills* deep yellow, ſhort, naked. Linn.—Colour moſtly pale yellow, ſometimes deep yellow and even ſaffron coloured. Ray ſyn. 2. n. 5.—It is remarkable that this plant, which univerſally takes the lead in the genus Agaricus, moſt certainly does not belong to that genus; having no regular gills, but only projecting veins variouſly branched and anaſtomoſing, but of the ſame ſubſtance as the pileus; they much reſemble the veins of the Peziza cornucopioides and P. acetabulum. The mode in which this plant diſcharges its ſeed does not appear to be known. It ſeems to approach nearer to an Helvella than to an Agaric. Perhaps this plant, the Ag. infundibuliformis of Bolton, (which ſeems to be Ag. cornucopioides of Bulliard,) Ag. candidus of Hudſon, and the 2 Peziæ above-mentioned, ought to form a new genus. Mr. Woodward.—*Pileus* hollow, undulated and fringed at the edge; ſtem ſhort, ſolid; gills thick, branching. It is remarkable in every reſpect; its bright yellow colour, venoſe gills, and particularly for its grateful ſmell, like ripe Apricots, which it preſerves in decay. Mr. Stackhouse.—The reticulation of the gills not repreſented in Schæff. 82 and 206, to which plates our authors refer. Major Velley.—Let me obſerve here once for all, that the plates of Schæffer ſeldom give an accurate repreſentation of the gills.

Agaricus Cantharellus. Linn.

[Earſham Wood, Suffolk. Mr. Woodward.—Woolhope Woods, and Coplar Hill, Herefordſhire. Mr. Stackhouse.—Single or in cluſters: Red Rock plantation and on the South-weſt ſide of the large pool, Edgbaſton, in dry ſoil towards the outſide of the woods or where the trees are thin.] July—Sept.

Var. 1. Gills branched, but not anaſtomoſing. Pileus nearly flat. *Bull.* 505. 1.—*Batſch* 37.

Grows with the preceding. The whole plant more regular in the growth. Mr. Bulliard has figured another variety with a black ſtem, pl. 505. f. 2, but I have not yet heard of its being found here.

The lovers of Muſhrooms may eat this with ſafety, but it is more tough and leſs highly flavoured than either the Ag. orcades, or Ag. campeſtris.

trumpet * MERU'LIUS *tubæfor'mis.* Stem cylindrical. Pileus funnel-ſhaped. —

Bolt.

Bolt. 106.

Stem cylindrical, ½ inch high, thickneſs of a pin, yellow. *Pileus* funnel-ſhaped, yellow, 1-10th to 1-8th of an inch over. *Veins* but little branched. Mr. Bolton ſays ſo little about this in his deſcription, that I have been obliged to give the preceding circumſtances chiefly from his figures, but the appearance of the middlemoſt of the larger drawings makes me doubtful, whether what I have taken for veins, be not only intended as ſhading. If ſo, the plant is really a Peziza.

Peziza tuba. BOLTON.

Moiſt places, and near rills of water, fixed to the putrid ſtems of decayed plants.

MERU'LIUS *muſcig'enus*. Stem lateral, thick, ſhort. *moſs* Pileus ſemi-circular, pale brown. Gills branched.—

Bull. 288, *and* 498. 1.

STEM ſolid, pale brown, tapering downwards, near ¼ of an inch high, and about half as thick.

PILEUS nearly ſemi-circular, ſmooth, pale grey brown, hollowed and uneven, ſometimes marked with concentric lines, ½ an inch over.

GILLS or Veins, branched, anaſtomoſing, reſembling thoſe of the M. cornucopioides.

Ag. muſcigenus. Bulliard 288.—*Helvella dimidiata.* ib. 498. 2.—See M. membranaceus.

This plant is found in great plenty in the months of Auguſt and September, growing on the Hypnum ſericeum, and I never found it on any other Moſs. BULLIARD.

** *Without a ſtem.*

MERU'LIUS *caryophyllæ'us*. Sitting, concave, *clove* ſhaggy, ſcolloped and waved at the edge. Veins on the under ſide branched.—

Schæff. 325.—*Bolt.* 173.—*Batſch.* 121.

Upper ſurface, flocky or ſhaggy, dark clove colour, marked with concentric lines of a darker ſhade; border curled and ſcolloped, the edge fringed. *Under ſide* paler, veins branched; ſeems duſted over with a brown bloom, or down. Subſtance ſoft, tough, ſoon turning black and periſhing; 1 to 1½ inch over. BOLTON.

Helvella caryophyllæa, DICKSON.—Elvela caryophyllæa. SCHÆFF.—Ag. triſtis. BATSCH.

On the ground, in pine plantations near Bungay, Suffolk. Mr. WOODWARD.

skinny . MERU'LIUS *membrana'ceus*. Sitting, membranaceous, ſmooth, lobed, curled at the edge; veins on the under ſide branched.—

Bolt. 177.—*Bull.* 498. 1.

Root longiſh, ſlender, fibrous. Plant ½ to 1 inch over; flat, thin, flexible, tough, red brown above, yellow brown beneath; veins branched, and anaſtomoſing. Lobes broad, deep. BOLTON.

Helvella membranacea, of Mr. Dickſon, who refers to Acta danica, 1. p. 286. f. 1, a work not within my reach, but in his ſecond faſciculus he cites Bulliard pl. 288, which has a thick lateral ſtem, ſufficiently long in proportion to the ſize of the plant, but Mr. Dickſon has deſcribed his plant as being without a ſtem; I ſhould therefore ſuppoſe that his and Mr. Bolton's plant cited above are the ſame, and that Mr. Bulliard's, pl. 288, is a different ſpecies.

Helvella retiruga. BULLIARD.

Moſſy ſoil; thatched houſes; bogs.

1325. AGA'RICUS.

ESS. CHAR. PILEUS with gills underneath.

GILLS differing in ſubſtance from the reſt of the plant; compoſed of two lamina.

SEEDS in the gills.

A. STEMS central.

* GILLS white.

black-ſtalked * AGA'RICUS *androſa'ceus*. (LINN.)—Gills white, few, 2 (or 4?) in a ſet. Pileus white, convex, center dimpled. Stem fuſcous, ſhining.—Ag. ſtipitatus, albus, pileo plicato membranaceo, ſtipite nigro. LINN.

Vaill. xi. 21. 21. 22. 23.—(*Bocc. muſ.* 143. *t.* 104; *is alſo quoted by Linnæus.*)

Gills extremely thin. *Pileus* membranaceous, plaited. *Stem* black, very ſlender. LINN.—Vaillant obſerves that his figures repreſent the largeſt ſized ſpecimens; that the *gills* are few, white, very diſtant from one another; the *pileus* white, and ſo thin that the gills ſeem to paſs through it; the *ſtems* ſolid, ſmooth, rather ſhining, dark-coloured. VAILL. par. p. 69.—*Gills* few. *Pileus* not larger than a lentil, thin, white, browniſh at the top. *Stem* dark red, or blackiſh, thin, an inch in length. SCOP. n. 1570.

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* This mark is prefixed to ſuch ſpecies and varieties as have not fallen under my own obſervation.

On

On the fallen leaves of Pines. LINN.

The exiſtence of this as a Britiſh ſpecies is not yet ſufficiently clear, as it ſeems our authors have very generally taken the ſpecies which I have called Ag. collariatus, for this plant of Linnæus; nor could they well do otherwiſe when inattentive to the ſtructure; for the ſize, the dark ſtem, and the thin white pileus, occaſion a very ſtriking reſemblance; but the ſtructure tells us that they are very different. In the Linnæan plant the gills are fixed to the ſtem, extending down it, and the ſtem is ſolid; but in ours, the ſtem is hollow, and the gills are not even in contact with it, but fixed to a collar which ſurrounds its top, though at ſome diſtance from it.

AGA'RICUS *ebur'neus*. (BOLT.)—Gills white, few, very ſhort, in pairs. Pileus white, convex. Stem white, cylindrical.— *ivory*

Bull. 118.—*Bolt.* 4, *the lower figures.*—*Mich.* 73. 6.

GILLS white, decurrent, not numerous, in pairs.

PILEUS white, ſmooth, from ¼ to 1¼ inch diameter, or more, convex, or a little conical, edges turning up when old.

STEM ſolid, white, from ½ to 1½ inch high, from the thickneſs of a ſmall crow to that of a ſwan's quill.

This Agaric varies very much in its ſize, but it has in every ſtate the appearance and the feel of ivory. In damp weather rather viſcid, and in wet ſeaſons ſemi-tranſparent.

Amongſt ſhort graſs; often near trees, Edgbaſton. Oct.

AGA'RICUS *cyathifor'mis*. (BULL.)—Gills white, 4 or 8 in a ſet. Pileus white; glaſs-ſhaped. Stem white, nearly cylindrical.— *drinking glaſs*

Bull. 248. *A.*—*Bolt.* 17.—*Schæff.* 207, *ill coloured*; *f.* 3, *the beſt.*—*ib.* 39, *more fleſhy than our ſpecimens.*

GILLS white, narrow, very decurrent; 4 in a ſet in the younger, but 8 in the older ſpecimens, from the greater extenſion of every other long one down the ſtem.

PILEUS white, ſattiny, 1 to 2 inches over, irregular at its edge, often tearing as it expands; flattiſh when young, and not always hollow as BULLIARD ſays. Edges are at firſt turned down, even though the central part be much hollowed, but at length they turn up, the whole plant in that ſtate greatly reſembling a drinking glaſs.

STEM ſolid, white, 1 to 2 inches high, thick as a ſwan's quill, rather thickeſt upwards, ſeldom quite central.

Paſtures, Edgbaſton. Aug.

VAR. 1. Pileus and ſtem buff-colour.

Bull. 248. *B.*

Pileus without fleſh, deeply hollowed. Stem 2½ inches high.
Woolhope; Beckbury Hill, Herefordſhire, not uncommon. Aug. Mr. STACKHOUSE.

funnel-ſhaped

AGA'RICUS *infundib'uliformis.* (BULL.) — Gills watery † white, pellucid, narrow, 4 or 8 in a ſet. Pileus funnel-ſhaped, browniſh-buff. Stem browniſh-buff.—

Bull. 286.—*Bolt.* 61.—*Sterbeck* 15. *B. B. very like it, but the ſtem too ſhort and too thick.*

GILLS very decurrent, white, numerous, narrow, thin, tender, brittle, the long ones often forked.

PILEUS brown buff, thin, pellucid, tender, ſmooth, hollow in the center, convex and turned down at the edge; 1¼ to 3 inches over; in the ſmall plants the edge is even, but in the larger ones very much plaited or curled.

STEM ſolid, brown buff, ſtriated, diſpoſed to twiſt, nearly cylindrical, white within, 1¼ to 2½ inch high, from the thickneſs of a crow's to that of a ſwan's quill.

Vide Ag. fimbriatus.

Plantations, Edgbaſton, after much rain. July.

thick and ſhort

AGA'RICUS *obe'ſus.* (BATSCH.)—Gills white, greatly decurrent, branching and inoſculating. Pileus white, nearly flat. Stem white, very thick, ſhort, inverſely conical.—

Batſch. 216.—*Schæff.* 307; *too much coloured.*

GILLS white, numerous; very narrow, ſo decurrent as to unite the Pileus and the ſtem into one uniform ſubſtance. In general there is a ſhort and a long Gill alternately, ſometimes there are 4 in a ſet, but the long ones frequently divide into two as they approach the edge of the pileus, and moreover the branches unite one to another ſo as to form a kind of net-work.

PILEUS white, turning brown, ſmooth, at firſt a button, then growing flat, at length the edges riſe ſo as to form a ſhallow concavity at the top, but the extreme edges ſtill turned down. Diameter 1¼ to 1½ inch.

STEM ſolid, white, widening ſo much upwards as to be nearly equal to the breadth of the pileus; often flatted; about 1½ inch high. *Root* none but the rounded end of the ſtem.

Paſtures amongſt moſs. Edgbaſton. Aug. 1790.

* VAR. 1. Pileus pale dead brown, violet coloured at the edge. *Bolt.*

† By *watery* white, is meant, that kind of appearance which is given to white linen or paper by wetting it; the wetting diminiſhing the intenſity of the whiteneſs, but increaſing the tranſparency. The term will likewiſe be occaſionally uſed to expreſs a ſimilar effect on other colours.

Bolt. 146.

On ſtumps of trees, Northowram. Aug. 1791. BOLT.

AGA'RICUS *piſtilla'ris*. Gills white, in pairs, very ſhort. Pileus whitiſh, convex. Stem whitiſh, conical, crooked.— *peſtle*

Batſch 62, *(but a little different in the colour of the Pileus.)*

GILLS white, decurrent, in pairs, hardly exceeding the 20th of an inch in length.

PILEUS whitiſh, uniformly convex, about 1¼ of an inch over, the edges curled inwards towards the ſtem.

STEM ſolid, whitiſh, ¼ inch long and ¼ diameter, thickeſt at bottom, bent in one or two directions.

I have never found it in any other ſtate than that juſt now deſcribed.

Amongſt graſs and moſs. Edgbaſton. 26th Aug. 1791.

*AGA'RICUS *ti'grinus*. Gills yellowiſh white, 4 in a ſet. Pileus whitiſh, ſpotted, convex, center depreſſed. Stem ſlanting, more or leſs ſpotted.— *tiger*

Bull. 70.

Varies very much as to the quantity of its ſpots. Subſtance leathery. *Gills* decurrent. *Pileus* ſpotted or rather pencilled with reddiſh brown hairy ſcales; 2 inches over. *Stem* ſolid, white, crooked, thinneſt downwards, more or leſs ſpotted like the pileus, 1 to 1½ inch high, thick as a crow quill. BULLIARD. DICKSON. 2. p. 24.

On decayed trunks of trees, particularly on the elm. [Powick near Worceſter. Pendarvis, Cornwall. Mr. STACKHOUSE.]

*AGA'RICUS *ca'ſeus*. Gills white, 4 in a ſet. Pileus pale mouſe, gently convex, edge turned in. Stem cylindrical, upright.— *cream-cheeſe*

Bolt. 40.—*Bull.* 400, *the ſame, but more coloured.*—*Schæff.* 78.

GILLS decurrent, dead white or yellowiſh white, thin, numerous, dry, 4 in a ſet.

PILEUS pale mouſe, clothy, ſmooth, gently convex with the edge turned in, 3 inches over.

Fleſh dry, brittle, not fibrous, reſembles cream-cheeſe.

STEM ſolid, white, cylindrical, upright, bulbous at the baſe.

This taken from Mr. Bolton, but his trivial name *mollis*, muſt be rejected, as it has before been applied to a different ſpecies, and particularly to one of Schæffer's, which is alſo a Britiſh plant.

Schæffer's name *(albellus)* is alſo pre-occupied by a different ſpecies. *Vide* Scop. n. 1462.

Dry woods and paſtures about Halifax. Mr. BOLTON.

* VAR.

* Var. 1. Gills ſnow white. Stem very large, with a large ring. Mr. Stackhouse.

Of a very ſoft and pulpy conſiſtence.

Near Bath. Mr. Stackhouse.

Liſters AGA'RICUS *Liſte'ri.* Gills whitiſh, moſtly uniform, very numerous and narrow. Pileus white, ſmooth, irregular, flattiſh, depreſſed in the centre. Stem white, eccentric, cylindrical.—

Bull. 200.—*Bolt.* 21.

Gills decurrent, white, or yellowiſh white, numerous, uniform, or in pairs, very fine, cloſe ſet like the teeth of an ivory comb, not 1-10th of an inch broad.

Pileus white, ſmooth, irregular, flattiſh, but more or leſs depreſſed; edge turned down; from 3 to 7 inches over; generally ſet ſloping on the ſtem.

Stem ſolid, whitiſh, 2 inches high and 1 in diameter, generally eccentric, blunt and rounded at the bottom. Sometimes 3 or 4 grow together, very large, even 10 inches diameter, remaining a long time in dry ſeaſons. Milky juice very biting, with a bitteriſh taſte.

Haughwood, Capler Hill, Woolhope, Herefordſhire. Specimen and obſervations from Mr. Stackhouse.

This, and its varieties, have very generally been ſuppoſed by the Engliſh botaniſts to be the *Ag. piperatus*, Linn.—who led them into the error, by quoting Haller and Bauhine for ſynonyms to his *piperatus*; ſynonyms which undoubtedly belong to the ſpecies deſcribed by Dr. Liſter, but by no means according with the Swediſh plant. To avoid perpetuating this confuſion, I have rejected the trivial name *piperatus*, though applied to it by J. Bauhine, who ſeems firſt to have given a good deſcription of it. *J. B. hiſt.* iii. p. 825. cap. 6. Dr. Liſter ſeems firſt to have found it in England. His deſcription, partly copied from J. Bauhine, may be found in *Ray cat.* p. 123, and alſo in *Ray hiſt.* p. 88. c. 9. The Doctor obſerves that the juice is moſtly poured out by the external parts of the plant, that it did not change the ſurface of poliſhed ſteel, that it became green when dried, but ſtill retaining its acrid biting quality. He obſerved too that the plant was much eaten by inſects and ſnails. Ray *ſyn.* 4. 14.

Var. 1. Gills connected by tranſverſe threads. Pileus light drab colour, very viſcid. Stem tapering downwards.

Gills decurrent, white, yellowiſh with age, irregular, much broader than in the preceding.

Pileus light brown or drab colour, hollowed in the center, 4 or 5 inches over.

Stem

Stem solid, white, inversely conical, 1½ inch long, ¼ to ½ inch diameter; generally eccentric.

The juice white like milk, hot and acrid, but not properly peppery.

Under large beech trees, plantations, Edgbaston. Oct.

Var. 2. Gills yellow white, numerous, and narrow. Pileus white, oblique.

Battar. 17. *A.*—*Schæff.* 83.—*Batsch.* 59.

In woods, Woolhope, Herefordshire. Mr. Stackhouse.

Var. 3. Gills white, Pileus buff, with yellow brown concentric circles.

Bull. 104.

Gills decurrent, white, very numerous, mostly 4 in a set. *Pileus* hollow in the center, edge turned down; 3 to 4 inches over. *Stem* white, tapering downwards, rounded at the end, 1 to 1½ inch high, and the same in diameter. *Juice* milky, abundant, very acrid. Bulliard.—*Gills* white, in age turning faintly yellow. *Pileus* when young cushion-shaped, and the margin rolled in, but even then it is always depressed in the center; surface somewhat velvety, strongly marked with concentric lines of a fulvous colour. Mr. Woodward.

In groves, or amongst bushes on a clayey soil near Bungay. Mr. Woodward.

Besides the above, I shall introduce to the acquaintance of the reader several other Agarics with milky juice, some mild, some acrid, which inadvertently, or as it would seem merely from the resemblance of the juice, have been supposed to belong to one or other of the two lacteſcent species of Linnæus.

AGA'RICUS *umbrac'ulum.* (Batsch.)—Gills dirty white, 4 in a set. Pileus cool brown, conical, scored. Stem cool brown, cylindrical, cottony at the bottom.— *umbrella*

Batsch. 4.

Gills a little decurrent, dirty white, 4 in a set, not numerous.

Pileus pale brown, conical, scored, cracking at the edge, but otherwise tough and strong; 1 inch from the edge to the apex, and as much in diameter at the base.

Stem solid, pale brown, cylindrical, 3½ inches high, thick as a thin goose quill, covered with a white cottony substance at the base.

This is an elegant plant, and with us a rare one.

In the hollow of a stump, Church Lane, Edgbaston.

25th September, 1791.

AGA'RICUS *agres'tis.* Gills browniſh white, irregular, but mostly 4 in a set. Pileus pale brown, darkest in the center, convex. Stem pale brown, smooth, cylindrical.— *thin-edged*

Gills

Gills decurrent, browniſh white, rather numerous, moſtly 4 in a ſet, but the long Gills are ſometimes in pairs, and united towards the ſtem, in which caſe the ſmaller Gills are either excluded, or elſe they open wide towards the rim, and then ſome ſmall ones are irregularly placed between them.

Pileus pale brown, darker in the center, ſmooth, very thin; regularly convex, but the edge a little expanding, and extending rather beyond the Gills, 1 inch over.

Stem ſolid, pale brown, cylindrical, ſmooth, from 2 to 3 inches high; thick as a crow quill.

Whole plant watery, and ſemi-tranſparent in wet weather.

Paſtures. Edgbaſton Park. 7th Nov. 1790.

boſſed AGA'RICUS *umbona'tus*. Gills white, 4 in a ſet, long ones about 17. Pileus browniſh, gently convex, central boſs dark brown, much elevated. Stem pale brown, cylindrical, firm, crooked.—

Gills a little decurrent, white, brittle, 4 in a ſet, long ones about 17, extending beyond the edge of the pileus.

Pileus ſemi-tranſparent, yellowiſh brown, with a darker coloured knob or boſs raiſed high in the center; ½ inch diameter.

Stem ſolid, ſemi-tranſparent yellowiſh brown, ſlimy, firm, 1½ inch high, cylindrical, thick as a crow quill, crooked.

Edgbaſton Park. 7th Nov. 1790.

parchment AGA'RICUS *membrana'ceus*. (Vahl.)—Gills browniſh white, 4 in a ſet, the ſhort Gills unuſually long. Pileus pale cheſnut, hollow, but boſſed in the center. Stem pale brown; root bulbous.—

Fl. dan. 1012.

Gills decurrent, browniſh white, 4 in a ſet, the ſmaller ſeries unuſually long.

Pileus pale reddiſh brown, glaſs-ſhaped, but with a ſmall riſing in the center, thin and ſkinny, irregular, with one or more large notches in the edge, 2 to 5 inches over.

Stem ſolid, ſpongy, pale brown, nearly cylindrical, 2 to 4 inches high, from ¼ to ½ inch diameter; fleſh, or rather pith, with ſeveral irregular perforations.

Root an oval bulb formed by an enlargement of the ſtem.

In fir plantations, Edgbaſton. Oct. 1790.

hooded AGA'RICUS *vela'tus*. Gills dirty watery white, not numerous, 4 in a ſet. Pileus pinky brown, nearly flat, edge turned down. Stem cylindrical, buff, with brown ſcales.—

Schæff.

Schæff. 36.

GILLS decurrent, browniſh watery white, ſtrong and fleſhy, not numerous, four in a ſet.

PILEUS pale pinky brown, from 2½ to 4 inches over, nearly flat, but a little boſſed in the center, and the edge turned down. When full grown quite flat, the central projection diſappearing; and when old quite funnel-ſhaped. Surface clammy when wet, ſattiny when dry. *Fleſh* browniſh white.

Curtain in the young plants compoſed of whitiſh cobweb-like, ſtraight threads, ſtretched from the ſtem over the edge of the pileus, and leaving a permanent dark-coloured mark on the ſtem.

STEM ſolid, buff, yellow at the top, flecked with brown ſcurfy ſcales below, 3 to 4 inches high, ½ to 1 inch diameter, nearly cylindrical, ſeldom quite ſtraight.

This plant ought to have retained Schæffer's trivial name of *glutinoſus*, as he firſt figured and deſcribed it, but Mr. Curtis having given that name to another more common Engliſh ſpecies, which he has well figured and deſcribed, I thought it better to give this an entirely new name, and a more expreſſive one readily occurred from the ſingular ſtructure of the curtain, which is extended over the whole of the pileus in its younger ſtate, like a veil. Mr. Dickſon, who firſt publiſhed this as a Britiſh ſpecies, referred it to the *Ag. limacinus* of Scopoli 1471, but ſeveral reaſons make me doubt of it being the ſame. The doubts of Schæffer too give further authority to my opinion; and Mr. Woodward, who communicated it to Mr. Dickſon, tells me, on my mentioning this circumſtance, that he always doubted the propriety of that reference.

Ag. limacinus. DICKS. faſc. 1. 15.

Fir plantations at Bar, Staffordſhire. Sept. 1791.

* VAR. 1. Gills branched.

Schæff. 36. 1. 2. 3. 4.

GILLS ſomewhat decurrent, whitiſh, with a mixture of aſh-colour, twice and ſometimes oftener branched, ſo that the number counted at the margin is at leaſt four times the number counted at the ſtem.

PILEUS varies from aſh-coloured to brown or yellowiſh white.

Curtain at firſt clear and tranſparent, reſembling a thin bladder, entirely covering the pileus and connected with the ſtem, on which it leaves a ſpurious ring. It remains in ſhreds round the edge of the pileus, and at length entirely diſappears. This curious kind of curtain ſeems peculiar to this ſpecies.

STEM brown, paler upwards, largeſt at the bottom.

Pine Groves at Earſham Broome, and Kirby, Norfolk. Mr. WOODWARD.

AGA'-

crowded AGA'RICUS *cumula'tus*. Gills white, 4 in a ſet. Pileus reddiſh brown, woolly and tufted. Stem yellow brown or olive, bulbous at the baſe; *Ring* woolly, permanent.—

Bolt. 141.—*Bull.* 377, *but more of a red caſt than our ſpecimens.* —*Bolt.* 140, *in a leſs advanced ſtate of growth.*

Gills decurrent, white; edges reddiſh brown when the ſeeds begin to be diſcharged; not very numerous, 4 in a ſet, ſhorteſt ſeries very ſhort.

Pileus reddiſh brown, darkeſt in the center, convex, from 3 to 6 inches over, woolly and tufted, edges turned in, but cracking with age and turning up. *Fleſh* ſpongy, white, thin.

Stem ſolid, olive brown below, reddiſh brown above the ring, with whitiſh ſtreaks; 4 to 6 inches high, 1-3d to ½ inch diameter, ſeldom ſtraight; thickeſt downwards, bulbous at the baſe.

Ring permanent, tough, woolly, yellowiſh white, turned down on the ſtem.

Should this in its younger ſtate appear to be veiled by the curtain like the preceding, it may rank only as a variety of that, but I have never found it with ſuch an appearance.

Grove, Edgbaſton, on the ſtumps of trees which had been cut down rather below the level of the ground. They grew in prodigious quantities; in ſome places as many together as would have filled half a buſhel. Oct.

Var. 1. Gills 4 or 8 in a ſet, by their decurrence ſtreaking the top of the ſtem quite down to the ring; pileus wrinkled or plaited at the edge.

Fl. dan. 1013.—*Schæff.* 74.

This differs very little from the preceding, but from being leſs crowded in its growth aſſumes a more perfect form. By the more full expanſion of the pileus ſome of the long gills ſeparate from the ſtem, which cauſes the appearance of 8 in a ſet in thoſe parts; and indeed in this ſpecies the extent of the decurrence of the long gills is very variable. The diſcharge of the ſeeds which tinges the edges of the gills, the ring, and the top of the ſtem of a rich red brown, ſeems always to begin in that part of the gill next to the ſtem. In the young and unexpanded plants or buttons the pileus is covered with a knap or frize of a brown glutinous wool, and the colour is that of an olive.

Edgbaſton lanes, on ſandy hedge banks. Oct.

coral * AGA'RICUS *coralloi'des*. (Scop.)—Gills whitiſh, ſmall, few. Pileus tawny red, convex, ſmooth. Stem whitiſh, thickeſt in the middle.—

Battar. 9. *F.*—*Scop. ſubt.* 35.

Gills

Gills decurrent, thinly ſet.
Pileus browniſh, ¼ of an inch over.
Stem ſolid, dirty white, 2 to 3 inches high, ¼ of an inch diameter. One root ſends out ſeveral ſtems, and alſo ſeveral jagged ſubſtances, the imperfect rudiments of other ſtems. Scop. Battar. Dickson faſc. 1. 16.
In hollow trees. Oct.

AGA'RICUS *verſi'color.* Gills yellow white, changing to dark red brown. Pileus greeniſh buff, ſcurfy, convex, edge turned in. Stem white, to brown. Ring permanent.— *changeable*

Gills decurrent, yellowiſh white, changing when old to dark brown, 2 or 4 in a ſet.
Pileus greeniſh buff, ſcurfy, moſt ſo in the center, convex, becoming flat with age, but the edge much curled in; 1 to 4 inches over.
Stem ſolid, but ſpongy, white, changing to brown, thickeſt downward, 2 inches high, thicker than a ſwan's quill. *Ring* permanent. *Root* bulbous.
This is a rare ſpecies. I found it only once, and then near the bridge in Edgbaſton Park which goes over the ſtream that feeds the large pool. July, 1792.

** Gills brown.

AGA'RICUS *caſta'neus.* Gills yellow brown, 4 in a ſet, but often irregular and branched. Pileus concave, boſſed in the center. Stem rich yellow brown.— *cheſnut*

Bolt. 22.

Gills decurrent, rich yellow brown, numerous, 4 in a ſet, thoſe of the firſt and ſecond ſeries ſometimes branched.
Pileus rich yellow brown, clammy when freſh, ſattiny when dry, 2 to 7 inches in diameter, concave, but boſſed in the center; edge turned down, but when large and fully expanded the whole turned up and quite funnel-ſhaped. *Fleſh* ſpongy, yellowiſh white.
Stem rich yellow brown, cylindrical or tapering, 1½ to 3 inches high, and ½ inch diameter.
Gills rather paler than the pileus. *Stem* yellowiſh at the baſe, the colour of the gills upwards. Mr. Woodward.—*Pileus* varying from deep chocolate to cheſnut; darkeſt in the center, with ſometimes a few ſcales. *Stem* generally tapering.
This is a very common ſpecies, growing in numerous circular patches under ſhady trees.
Woods near Bath. Powick, Worceſterſhire. Mr. Woodward.—Hedge banks, Caſtle-bromwich. Mr. Stackhouse.—Pine Grove, Kirby,

Kirby, Norfolk. Edgbaſton, under large oaks and beeches. Aug.—Dec.

Var. 1. Gills 4 to 8 in a ſet. Pileus concave, dotted.

Schæff. 252.

Gills decurrent, paler than the ſtem, numerous, 2 long gills often united near the ſtem, and then they include only one intermediate gill, with a little tooth on each ſide.

Pileus from full cinnamon to cheſnut, dotted with little pits, the central part concave, and the edge turning up with age.

Stem ſolid, brown cinnamon, crooked, thinneſt downwards, ¼ to 2 inches high and 3-8ths diameter.

Fl. dan. 1011, *(cyathiformis)* is by M. Vahl referred to the above ſpecies of Schæffer, but the Daniſh plant is deſcribed as having a woolly pileus, and is figured with a *hollow* ſtem, whereas Schæffer expreſsly ſays that his plant has a *ſolid* ſtem.

Paſtures, Edgbaſton. Oct.

bronze AGA'RICUS *rubeſ'cens.* (Schæffer.)—Gills reddiſh brown, 8 in a ſet. Pileus reddiſh brown, with darker concentric circles.—

Schæff. 73.

Gills decurrent, reddiſh brown, 8 in a ſet.

Pileus reddiſh brown, marked with concentric circles of a darker ſhade; in general flat, but hollow in the center, and wvaed and bent down at the edge, clothy to the touch, 1½ to 3 inches diameter; ſloping.

Stem ſolid, reddiſh, brown, whitiſh within, 1 inch long; near ½ inch diameter, nearly cylindrical, but rather thinner downwards, generally excentric.

Juice white like milk, hot and acrid like that of Mezereon or cuckowpint.

Plantations, and pool dam, Edgbaſton. 15th Sept. 1791.

whey AGA'RICUS *ſero'ſus.* Gills pale brown, numerous, 4 in a ſet. Pileus cinnamon colour, flecked, gently convex but ſinking in the middle. Stem cinnamon, ſmooth, crooked. Juice like whey.—

Bull. 54, *nearly reſembles it, but the pileus does not ſink in the middle.*

Gills a little decurrent, brown, numerous, in fours, regular.

Pileus cinnamon colour, flecketed with darker ſhades; gently convex but a little hollowed in the middle, darkeſt in the hollow; from 1 to 2 inches diameter.

Stem ſolid, ſmooth, cinnamon coloured, central, crooked, cylindrical, 2 inches high, and 3-8ths diameter.

Juice

Juice dilutely milky, not acrid.
Paſtures, Edgbaſton. Oct. 1790.

AGA'RICUS *lactif'luus*. (LINN.)—Gills red brown, Pileus dark red brown. Stem buffy. Juice white, milky, mild.— *milky*

Schæff. 5.

GILLS decurrent, red brown, but paler than the pileus.
PILEUS rich red brown, nearly flat, 4 inches over.
STEM ſolid, reddiſh buff; 2½ inches high, ¼ inch diameter. Mr. STACKHOUSE.

Ag. ſtipitatus. Pileo plano carneo lacteſcente, lamellis rufis, ſtipite, longo carneo. LINN. Sp. Pl.

STEM 1 to 4 inches high, reddiſh, ſomewhat thickeſt and brown at the baſe, paler and ſmaller upwards.
PILEUS of a deeper colour, from 1 to 4 inches broad, generally ſmooth, flattiſh but depreſſed in the center, and bent in at the margin; ſometimes marked with one or two circles near the edge.
GILLS paler than the pileus; long ones ſometimes branched at the baſe. The juice white, at firſt mild, but leaving a pungent taſte on the tongue. Mr. WOODWARD.

Specimens ſent me from Woolhope, Herefordſhire, by Mr. STACKHOUSE.—Pine groves, near Bungay, Suffolk. Mr. WOODW.

VAR. 1. Pileus funnel-ſhaped; ſtem rich red brown, thinner downwards, with yellow briſtly hairs at the baſe.
GILLS decurrent, red brown, numerous, 8 in a ſet, long ones ſometimes cloven, paler than the pileus; brittle.
PILEUS red brown, funnel-ſhaped, 2 to 3½ inches over. *Fleſh* ſpongy, thin, reddiſh white.
STEM ſolid, rich red brown, redder than the pileus, tapering downwards, redder at the baſe, and ſet with briſtly hairs, often crooked and eccentric, 2 inches high, 3-10ths diameter.

The whole plant, but eſpecially the gills, abounding with white milky juice, at firſt mild, but at length leaving a ſlight pungency in the throat.

Edgbaſton Park, under the large clump of beeches. July.

AGA'RICUS *pilo'ſus*. (SCHÆFF.)—Gills brown, 4 in a ſet. Pileus and ſtem yellowiſh, tufted with darker hair.— *tufted*

Schæff. 80.—*Fl. dan.* 491.

GILLS decurrent, browniſh, numerous, broad.
PILEUS yellowiſh, convex, flattiſh, or boſſed, tufted with hairs. *Fleſh* tough.

STEM

Stem ſolid, cylindrical, twiſted, tapering at bottom, yellow, but leſs ſo than the pileus, rough with dark hairs, 1½ to 4 inches long, thick as a finger, firm, white within, above the ring naked. *Ring* permanent. *Curtain* fugacious. *Root* cloſely compreſſed and tapering. In thoſe cluſters which I gathered, though the ſtems were large, yet they tapered ſo much that the junction of them all was not equal to the ſize of a ſingle ſtem. The young ones come out ſtraw coloured. Specimens, drawing and deſcription, from Mr. Stackhouse.

On ſtumps of pear and oak. (Vide Ag. *floccoſus.*)

Var. 1. Pileus tawny, uniformly ſhaggy with hair. Stem white. *Curtain* white. *Ring* permanent.

Bolt. 42.

I am indebted to Mr. Stackhouſe for a ſpecimen of this, and alſo for the following remarks: It is a faſciculated Agaric growing on trees. The part of the ſtem above the ring quite ſmooth. *Pileus* clothy and hairy, or regularly woolly all over. I think it a variety of Ag. *piloſus.*

Woolhope, Herefordſhire. Sept. 1791. Mr. Stackhouse.

tender AGA'RICUS *delicat'ulus.* Gills brown cinnamon, claws white; 4 or 8 in a ſet. Pileus buffy yellow, flattiſh. Stem cylindrical, yellow.—

Fl. dan. 1008. 2, *will give ſome idea of it, putting out of the queſtion the hollow ſtem, and the too great regularity of the gills.*

Gills a little decurrent, rich cinnamon, white where fixed to the ſtem, 4 in a ſet, 8 in the larger plants; the long gills very broad, tearing from the ſtem when the pileus is expanded.

Pileus buffy yellow, thin at the edge, nearly flat, but concave in the center when old.

Stem ſolid, yellow, ſhining, 3 inches high, thick as a raven or gooſe quill, cylindrical.

Ruffle turned down on the ſtem, fugacious.

The whole plant very brittle, tender, and juicy, a very ſmall preſſure deſtroying the colours, and giving them a watery dark appearance

Edgbaſton, by the ſtews, rare. 20th May, 1792.

Var. 1. Gills brown, mottled, edges and claws white; 4 in a ſet. Pileus buff. Stem yellowiſh white.

Gills decurrent, brown, mottled, not very numerous, 4 in a ſet. The edge of the gills, and the portion of the long ones next to and decurrent on the ſtem, white.

Pileus buff-colour, flattiſh, with a ſmall pointed central boſs, edge turned down, ſurface feathery, 1 to 1½ inch over. *Fleſh* white.

Stem

Stem solid, buffy white, gloſſy, variouſly bent, cylindrical, 3 inches high, thick as a raven quill, ſuddenly thickening at the top at its connection with the pileus. *Fleſh* yellowiſh, but quite white in the center.

Curtain whitiſh, fugacious, ſometimes leaving fragments on the edge of the pileus and on the ſtem.

Paſtures, Edgbaſton. 20th May, 1792.

*** Gills red.

AGA'RICUS *roſel'lus*. (Batsch.)—Gills pinky red, few, 4 to 8 in a ſet. Pileus brown red; fleſh red. Stem pinky red.— *pinky*

Batſch. 99.

Gills decurrent, deep pinky red, not numerous, 4 in a ſet, but ſometimes 8 from the intervention of other little teeth.

Pileus brown red, rather ſcurfy, convex, but a little hollowed in the center; ¾ to 1¼ inch diameter. *Fleſh* thin, red.

Stem ſolid, pinky red, cylindrical, but thickening at the top, thick as a crow quill, 1½ to 2 inches long. In a ſection of it, the central part is leſs compact and paler than the outſide.

This elegant little Agaric is ſeldom found in full perfection, as it ſoon ſhrivels and loſes its brilliant colours, but it does not rot.

Amongſt old Alder ſtumps, in the Alder plantation, Edgbaſton. 2d Oct. 1791.

AGA'RICUS *jecori'nus*. Gills pinky liver colour, numerous, in pairs. Pileus pinky brown, ſattiny, flat. Stem pinky above, yellowiſh below, tapering downwards— *liver colour'd*

Gills decurrent, rich pinky liver colour, with age blacker at the edges and deep tan-leather colour at the ſides; in pairs, the ſmall Gill varying in ſize, but very ſmall in proportion to the large one; the large Gill ſometimes forked.

Pileus pinky brown, convex and boſſed when young, flat and more liver coloured when older, but the edge always turned in; ſurface ſmooth, ſhining, ſattiny, from 3 to 5 inches over. *Fleſh* pinky white.

Stem ſolid, ſpongy, pinky brown upwards, yellow brown below, tapering downwards, rarely ſtraight, 2 to 3 inches high, ½ to 1 inch diameter. *Fleſh* fine rhubarb yellow.

From ſome appearances which took place in the pickle in which it was preſerved, I ſuſpect that in favourable circumſtance it will be found to contain a milky juice.

Pine plantations at Bar, near Walſall, Staffordſhire. 20th July, 1792.

saffron juiced

AGARICUS *delicioſus*. (LINN.)—Gills flame coloured, narrow, regularly branched. Pileus rich red brown, fleſh orange colour. Stem orange, tapering downwards.—

Ag. ſtipitatus, pileo teſtaceo, ſucco luteſcente. LINN.

GILLS decurrent, bright aurora or flame coloured, very narrow, regularly branched in this manner—at ſome diſtance from the ſtem each long gill divides into 2, each of theſe diviſions again divides into 2, and laſtly each of theſe ſub-diviſions before reaching the edge of the pileus divides again; the ends of the laſt branchings next to the edge of the pileus thicker than the other parts.

PILEUS rich red brown, nearly flat, but the center a little hollowed, and the edge conſiderably rolled in towards the ſtem; from 1½ to 3 inches over. *Fleſh* pale orange.

STEM ſolid, orange coloured, tapering downwards, 1 to 2 inches high, and ¼ to 3-8ths inch diameter.

Juice rich yellow. It ſoon ſhrivels and feels remarkably light. The ſpecimens from which the above deſcription was taken having been carried ſome miles in an open baſket, gives me reaſon to apprehend that it is not ſo exact as I could wiſh. I find no figure exactly correſponding with this beautiful and remarkable plant, but on the authority of Mr. Hudſon, and Mr. Relhan, the *delicioſus* of Schæffer muſt be inſerted as a variety.

In fir plantations on barren hills at Bar, Staffordſhire. 26th Sept.

* VAR. 1. Gills brick red, branched. Pileus brick red, marked with darker and paler concentric circles. Stem ſpotted. Juice ſaffron colour.

Schæff. 11.

Generally ſolitary, fleſhy, juice ſaffron coloured. *Pileus* hemiſpherical, depreſſed in the center, raiſed and arched towards the edge, colour of brick, with concentric circles alternately paler. *Gills* brick red, branched. *Stem* cylindrical, ſpotted, ſhort, thick, ſomewhat hollow; without curtain or ring. SCHÆFFER.

Woods near Guilford. Aug.—Oct. Mr. HUDSON.—Dry paſtures. Gogmagog Hills. Mr. RELHAN.

VAR. 2. Gills pale brick colour, four in a ſet. Pileus pale brick colour. Juice golden yellow.

Bolt. 144.

Stem cylindrical, ſolid, hollow with age. No curtain. *Gills* narrow, brittle. *Pileus* at firſt convex, becoming horizontal, and laſtly funnel-ſhaped, marked with darker concentric circles, but theſe are not always equally diſtinct, and in ſome plants hardly perceptible. Every part of it when wounded affords a copious diſcharge of yellow acrid juice. BOLT. p. 144.

Stem

Stem ſolid, cylindrical, brown olive, blotched, 2 inches long, ½ to 1 inch diameter. *Pileus* always more or leſs hollowed in the middle, a little woolly, from 3 to 5 inches over. Specimen from Mr. STACKHOUSE.

AGA'RICUS *pipera'tus*. (LINN.) — Gills pale, pinky red, numerous, in pairs. Pileus dirty yellow white, woolly, depreſſed in the center. Stem pale yellow.— *pepper*

Bull. Ag. necator, with no number to the plate; but the tints of the pileus more red than our plant, and the gills a leſs pleaſant colour.

GILLS decurrent, a beautiful bluſh colour, numerous, in pairs, broader than thoſe of the Ag. Liſteri.

PILEUS dirty browniſh red, or yellowiſh white, woolly, flattiſh, but the edge turned down, and the center depreſſed; 3 inches over. *Fleſh* white.

STEM ſolid, pale yellow, not central, nearly cylindrical, 1½ to 2 inches high, and ½ inch diameter. *Juice* white, milky, very hot and biting.

Ag. ſtipitatus, pileo planiuſculo lacteſcente, margine deflexo, lamellis incarnato pallidis.

β *Pileus convexo-depreſſus, carnoſus, lacteſcens, margine inflexo, tomentoſo.* Lamellæ *pallidæ*. Stipes *nudus, fiſtuloſus, pallidus*. Fl. Suec. 1195.—Schæff. 12. ſeems a variety with a yellow juice; and Bull. 529. 2. another variety.

Specimen, drawing, and deſcription, ſent to me by Mr. STACKHOUSE, who rightly conjectured it to be the real Ag. piperatus of LINN.

Haughwood, near Woolhope, Herefordſhire. Mr. STACKHOUSE.

**** GILLS *buff*.

AGA'RICUS *dul'cis*. (HUDS.)—Gills buff, numerous, 8 in a ſet. Pileus dark buff. Stem buff. Juice milky, mild.— *mild*

Bull. 224.—*Bolt.* 3.

GILLS decurrent, buff, numerous, 8 in a ſet, the little teeth or ſmalleſt Gills very irregular in ſize.

PILEUS concave, dark buff approaching to orange, 1½ to 2 inches over. (Our ſpecimens not boſſed in the center as in ſome of Bulliard's figures.)

STEM ſolid, irregularly hollow with age, buff colour, 2 inches high, rather thicker than a ſwan's quill.

Juice white, milky, not acrid, or peppery. Ray *Syn.* 4. 15.

Plantations, Edgbaſton. Oct.

Var. 1. Gills in fours, or eights, connected by ſhort tranſverſe white ligaments.

Edgbaſton, in woods. Nov.

Var. 2. Gills in pairs. Stem ſhort, eccentric. Milk white, changing to a brimſtone colour.

Gills in pairs, a very little decurrent, fleſhy, broad.

Pileus concave, reddiſh brown, marked obſcurely with concentric circles.

Stem ſolid, ſhort, thick, not central.

Milk white, mild, changing to a pale yellow when expoſed to the air. Mr. Stackhouse.

Woods near Woolhope, Herefordſhire.

brown-ſugar AGA'RICUS *liv'ido-rubes'cens.* (Batsch.)—Gills buff, numerous, 4 in a ſet. Pileus mouſe colour, concave, edges turned down. Stem white, thick.—

Bull. 282.—*Batſch.* 202.

Gills ſomewhat decurrent, buff colour, ſemi-tranſparent, thick ſet, 4 in a ſet, ſprinkled over with a ſubſtance like brown ſugar; probably the inſpiſſated juice.

Pileus mouſe colour, dotted, concave, irregular at the edge, and more or leſs turned down and plaited. Three to 4 inches diameter.

Fleſh white, changing to a reddiſh tinge by expoſure to the air.

Stem ſolid, white, ſmooth, but not even, 2 inches long, more than ½ inch diameter, gently tapering downwards.

Juice milky, ſomewhat acrid, but not peppery.

Edgbaſton plantations. Aug. 1791.

acrid AGA'RICUS *a'cris.* (Bolt.)—Gills reddiſh buff, 4 in a ſet, branching. Pileus cool brown, viſcid, ſhining, ſloping. Stem whitiſh, ſhining, eccentric.—

Bolt. 60.

Gills decurrent, more ſo on one ſide the ſtem than on the other, pale brown buff, with a reddiſh tinge, very thick ſet, the long ones often inoſculating.

Pileus cool brown, viſcid, ſhining, irregular, concave, 2 to 3½ inches diameter, ſet ſloping on the ſtem. *Fleſh* white.

Stem ſolid, tapering downwards, flatted at the top, nearly white, ſhining, crooked, eccentric, 1 to 1½ inch long.

From the crooked ſtem and the ſloping pileus it lies very cloſe to the ground amongſt the graſs, and is much eaten by the large black ſnail. It abounds with white milky juice, very acrid to the taſte.

This

This ſpecies is nearly allied to Var. 1. Ag. Liſteri, and I have felt much inclined to connect it with that, but the differences are ſuch that I think the inveſtigation will be facilitated by the preſent diſpoſition, and further obſervation may determine more exactly whether that ſhould be arranged as a variety under this ſpecies, or where it now ſtands.

***** GILLS *yellow*.

AGA'RICUS *teſta'ceus*. (HUDS.)—Gills brown yellow, 4 in a ſet. Pileus deep yellow, boſſed in the center. Stem yellow, ſcored, thickeſt downwards.— *yellow*

Schæff. 65.

GILLS decurrent, deep browniſh yellow, 4 in a ſet.

PILEUS bright full yellow, with deeper yellow ſtreaks, center boſſed, edge turning up, 2 inches diameter. *Fleſh* yellow.

STEM ſolid, yellow, ſilky, thickeſt downwards, 3-8ths of an inch diameter, 3 to 4 inches long, often crooked.

—*Gills* of the ſame colour with the Pileus; ſomewhat running down the ſtem. Curtain none. (Ag. leoninus of Haller is a different ſpecies.) Mr. WOODWARD.

This is undoubtedly the plant of Schæffer, which Mr. Hudſon cites as his Ag. teſtaceus, but he alſo quotes as a ſynon. Haller 2431, which is a very different plant, as appears from the references and deſcription of the latter author, who ſeems to have miſled Mr. Hudſon by quoting Schæffer's 65.

Plantations, Edgbaſton. Sept.

AGA'RICUS *adus'tus*. Gills pale yellow, moſtly uniform, forked. Pileus yellow brown, edge greatly turned in. Stem yellow brown, with reddiſh ſtains.— *parched*

Schæff. 72 *and* 71.

GILLS greatly decurrent, pale yellow when full grown, numerous, nearly of the ſame length, moſt of them dividing at ſome diſtance from the ſtem.

PILEUS yellowiſh brown, with ſtains of dark red towards the edge; gently convex, but the edge turned down and bent in ſo as to approach the ſtem; 3½ to 5 inches diameter; clammy when wet, ſattiny when dry. *Fleſh* pale dirty yellow.

STEM ſolid, irregularly hollow with age, yellowiſh brown, with a few reddiſh ſtains; near 2 inches long, and more than 1 in diameter, rather eccentric.

This is a very different plant from the Ag. elephantinus of Bolton, with which it has been confounded, perhaps becauſe the

pileus in both becomes overſpread with dark ſtains, giving the appearance of their having been parched or burnt.

Edgbaſton Park, under oak trees. 4th Aug. 1791.

trumpet * AGA'RICUS *tubæfor'mis.* (SCHÆFF.)—Gills pale golden yellow. Pileus funnel-ſhaped, golden yellow. Stem very long, crooked.—

Schæff. 248 *and* 249.

Gills decurrent, pale golden yellow. *Pileus* hollow like a funnel, varying in ſhape, golden yellow, 1½ inch over. *Stem* ſolid, woody, cylindrical, long, crooked, ſcaly, ſcored and pitted, golden yellow, 6 inches long, 3-8ths diameter. SCHÆFFER.

Trunks of old trees. June. DICKSON. faſc. 1. 15.

amethyſt AGA'RICUS *amethyſ'tinus.* (HUDS.)—Gills purple, 2, 3, or 4 in a ſet. Pileus purple, convex. Stem pale purple, cylindrical.—

Bull. 198—*(but Schæff.* 13, *which he quotes as a ſynonym, is a very different plant.)*

GILLS a little decurrent, beautiful violet purple, not numerous, 2 in a ſet in the ſmaller, 3 and 4 in the larger plants.

PILEUS purple, ſmooth, convex, with age the middle a little hollowed, 1 to 2 inches diameter.

STEM ſolid, irregularly hollow when old, pale purple, cylindrical, ſmooth, 2 to 3 inches long, thick as a raven or gooſe quill.

Stem often crooked. Pileus ſometimes boſſed. Differs eſſentially from the *A. violaceus* in habit as well as colour. Mr. STACKHOUSE.—Our plant perfectly agrees with Mr. Hudſon's character, and alſo with the more explicit deſcription by Vaillant. p. 67.

Woods near Bath. Mr. STACKHOUSE.—Plantations, Edgbaſton. July—Oct.

woolly-edged AGA'RICUS *contig'uus.* (BULL.)—Gills yellow, very numerous, moſtly branched, and inoſculating where they join the ſtem. Pileus cinnamon, nearly flat, edge woolly, greatly turned in. Stem brown, ſtreaked.—

Batſch. 61.—*Bull.* 240.

GILLS a little decurrent, yellow, changing to watery brown, very numerous, moſt of them branched, and where they join the ſtem, reticulated.

PILEUS cinnamon colour, nearly flat, but a ſmall riſing in the center, the edge very much rolled in and cloathed with a conſiderable quantity of pale brown woolly ſubſtance; diameter 4 or 5 inches.

Fleſh

Fleſh yellowiſh white, changing when cut, to a reddiſh brown.
STEM ſolid, pale brown, with dark bloody ſtreaks, nearly cylindrical, 2½ inches high, ½ inch diameter.

The fleſh of the ſtem changes like that of the pileus, when expoſed to the air. Our plant exactly agrees with the excellent plate of Mr. Bulliard, except that our ſtems are longer and leſs uniformly coloured.

Fir plantations at Bar, Staffordſhire. 12th Sept. 1791.
Pine Groves, Norfolk. Mr. WOODWARD.

* VAR 1. Gills pale brown, numerous, 4 in a ſet. Pileus red brown, convex, edge rolled in, a velvety belt above it. Stem crooked.

Bolt. 55.

I think this muſt belong to this place notwithſtanding the Gills are ſaid to be pale brown.

In the Burks, and other woods about Halifax.
Sept. Oct. Mr. BOLTON.

AGA'RICUS *neca'tor*. (BULL.)—Gills pale yellow, moſtly in pairs. Pileus buff, flattiſh, center hollow and deeper coloured; edge rolled in, woolly. Stem inverſely conical. Milky juice extremely burning and acrid.— *deadly*

Bull. 529.

GILLS decurrent, pale yellow, moſtly in pairs; the long ones frequently forked.

PILEUS buff, flat, but concave and deeper coloured in the center, edge turned down, rolled inwards towards the ſtem, and denſely covered with a large quantity of cottony or woolly ſubſtance, ſo as nearly to obſcure the Gills, ſome of theſe curled fibres when ſtretched out being near 1-3d of an inch long. *Fleſh* pithy, white.

STEM ſolid, pale buff, inverſely conical, eccentric, crooked, 1½ inch long, full ½ inch diameter in the middle, with age becoming irregularly hollow.

Mr. STACKHOUSE, who ſent me this ſpecimen, ſays, "the whole "of the exterior of this plant, which was of a dirty yellowiſh hue, "appeared compoſed of woolly fibres filled with a glutinous dew."

Near Woolhope, Herefordſhire. 11th Aug. 1791.

VAR. 1. Gills much branched and inoſculating. Pileus brown buff. Stem very ſhort and thick.

GILLS decurrent, numerous, pale yellow, ſhort for the ſize of the plant, the edge of the pileus turning in ſo as greatly to leſſen the uſual diſtance between it and the ſtem. Theſe Gills are more irregular than thoſe of any other Agaric I have examined, for they are much branched at both ends, and theſe branchings inoſculate with one another ſo as to form a net-work, not only upon the ſtem, but alſo under the edge of the pileus. PILEUS

Pileus brown, or reddiſh buff, clammy or ſattiny, nearly flat, but the edge at all times much turned in, and woolly; diameter 3 to 4 inches. *Fleſh* yellowiſh.

Stem ſolid, buff in the middle, brown below, yellow at the top, nearly cylindrical, 1½ inch long, 1 inch diameter; ſomewhat eccentric.

The general habit of this plant induces me to place it here, but the want of milky juice would rank it as a variety of the *Ag. contiguus*; knowing however that thoſe plants moſt abounding with milk are ſometimes without it, as I have particularly found in the *Ag. cæſareus*, I think it very poſſible that a more favourable concurrence of circumſtances may teach us that it is really a milky ſpecies.

Under large Spaniſh cheſnut trees, in the park at Edgbaſton. 6th Aug. 1791.

tawny AGA'RICUS *ful'vus*. (Bolt.)—Gills pale yellow, not numerous, 4 in a ſet. Pileus red buff, conical, changing to convex and boſſed, the edge at length turning up. Stem whitiſh, cylindrical.—

Bolt. 56.—*Schæff.* 50 *and* 54.

Gills pale yellow, decurrent, not numerous, 4 in a ſet, but the ſmall teeth often excluded, and the larger ones branching and inoſculating near the edge of the pileus.

Pileus red buff, moſt red in the center, paler with age, at firſt bluntly conical, the edge turned in, then nearly flat, but boſſed in the center, at length the edge turns up and tears.

Fleſh white, thin, ſemi-tranſparent.

Stem ſolid, cylindrical, but taper and bent towards the root, white or very pale buff, or very dilute yellow, 1½ to 3 inches high, ¼ to ½ inch diameter.

On the bank by the long ſtew, Edgbaſton Park. Oct.

****** Gills purple.

ruddy * AGA'RICUS *ru'tilus*. (Schæff.)—Gills reddiſh purple, leathery, few, in pairs. Pileus reddiſh purple, fleſhy. Stem reddiſh purple, cylindrical.—

Schæff. 55.

Gills decurrent, moderately numerous, leathery, thick, reddiſh purple, but lighter than the pileus, turning of a blue mouldy colour in decay.

Pileus flat, fleſhy, thick, ſmooth, center ſomewhat depreſſed, edge turned down, not changing colour as Schæffer mentions.

Stem ſolid, reddiſh purple, cylindrical, inſenſibly ſwelling at the top into the pileus, tough, 2 inches high or more, 3-8ths diameter. Major Velley and Mr. Stackhouse. Woods

Woods near Bath. Under fir trees at Pendarvis, Cornwall; often diſtorted when fully grown, and wrinkled into groteſque ſhapes. Mr. STACKHOUSE.—Abounds on Claverton Downs, and from its leathery texture continues much longer undecayed than any other ſpecies. Major VELLEY.

* AGA'RICUS *vis'cidus*. (LINN.)—Gills purple, 4 in a ſet. Pileus rich brown, convex. Stem paler brown, cylindrical.— *clammy*

Ag. ſtipitatus, pileo purpuraſcente fuſco viſcido. Lamellis fuſco purpuraſcentibus. LINN.

Gills ſomewhat decurrent, diſtinct, remote, purple to brown, the ſhort ones tapering to a point, ſides woolly, powdery. *Pileus* convex, hemiſpherical, and the edge turned in when old, at length turban-ſhaped and viſcid. *Stem* cylindrical, brown yellow, eſpecially in its horizontal ſection. *Fl. ſuec.*

GILLS decurrent, not numerous.

PILEUS convex, edge thin, rather turned down, about 2 inches over.

STEM ſolid, cylindrical, paler brown than the pileus, 1½ inch high, thick as a gooſe-quill. Taken from a beautiful drawing and diſſection ſent me by Mr. STACKHOUSE.

Plantations near Bath. Mr. STACKHOUSE.

§ II. SOLID and FIXED.

* GILLS white.

AGA'RICUS *grave'olens*. Gills white, very numerous, irregular, 4 in a ſet. Pileus white. Stem white, tapering downwards.— *ſtrong ſcented*

GILLS fixed by a ſmall claw, white, very numerous, irregular, moſtly 4 in a ſet.

PILEUS dead white, convex, yellowiſh in the center, 3 to 4 inches over. *Fleſh* thick, white, ſpongy.

STEM ſolid, white, fibrous, ſplitting, crooked, compreſſed, tapering downwards, 2 inches high, near 1 inch diameter; ſpongy and white within.

The want of a Wrapper and Curtain diſtinguiſhes this from the Ag. *bulboſus*. The Gills are diſpoſed to ſeparate from the pileus as the tubes of ſome of the Boleti do. It is very ſtrong and unpleaſant in its ſmell, ſo that it is not an agreeable taſk to go through the examination of it.

Red Rock plantation, Edgbaſton. 20th May, 1792.

* AGA'RICUS *fimbria'tus*. (BOLT.)—Gills watery white, 4 in a ſet, nearly gelatinous. Pileus watery white, funnel- *curled*

Pileus brown, or reddiſh buff, clammy or ſattiny, nearly flat, but the edge at all times much turned in, and woolly; diameter 3 to 4 inches. *Fleſh* yellowiſh.

Stem ſolid, buff in the middle, brown below, yellow at the top, nearly cylindrical, 1½ inch long, 1 inch diameter; ſomewhat eccentric.

The general habit of this plant induces me to place it here, but the want of milky juice would rank it as a variety of the *Ag. contiguus*; knowing however that thoſe plants moſt abounding with milk are ſometimes without it, as I have particularly found in the *Ag. cæſareus*, I think it very poſſible that a more favourable concurrence of circumſtances may teach us that it is really a milky ſpecies.

Under large Spaniſh cheſnut trees, in the park at Edgbaſton. 6th Aug. 1791.

tawny AGA'RICUS *ful'vus.* (Bolt.)—Gills pale yellow, not numerous, 4 in a ſet. Pileus red buff, conical, changing to convex and boſſed, the edge at length turning up. Stem whitiſh, cylindrical.—

Bolt. 56.—*Schæff.* 50 *and* 54.

Gills pale yellow, decurrent, not numerous, 4 in a ſet, but the ſmall teeth often excluded, and the larger ones branching and inoſculating near the edge of the pileus.

Pileus red buff, moſt red in the center, paler with age, at firſt bluntly conical, the edge turned in, then nearly flat, but boſſed in the center, at length the edge turns up and tears.

Fleſh white, thin, ſemi-tranſparent.

Stem ſolid, cylindrical, but taper and bent towards the root, white or very pale buff, or very dilute yellow, 1½ to 3 inches high, ¼ to ½ inch diameter.

On the bank by the long ſtew, Edgbaſton Park. Oct.

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Schæff. 55.

Gills decurrent, moderately numerous, leathery, thick, reddiſh purple, but lighter than the pileus, turning of a blue mouldy colour in decay.

Pileus flat, fleſhy, thick, ſmooth, center ſomewhat depreſſed, edge turned down, not changing colour as Schæffer mentions.

Stem ſolid, reddiſh purple, cylindrical, inſenſibly ſwelling at the top into the pileus, tough, 2 inches high or more, 3-8ths diameter. Major Velley and Mr. Stackhouse. Woods

Woods near Bath. Under fir trees at Pendarvis, Cornwall; often diſtorted when fully grown, and wrinkled into groteſque ſhapes. Mr. STACKHOUSE.—Abounds on Claverton Downs, and from its leathery texture continues much longer undecayed than any other ſpecies. Major VELLEY.

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Ag. ſtipitatus, pileo purpuraſcente fuſco viſcido. Lamellis fuſco purpuraſcentibus. LINN.

Gills ſomewhat decurrent, diſtinct, remote, purple to brown, the ſhort ones tapering to a point, ſides woolly, powdery. *Pileus* convex, hemiſpherical, and the edge turned in when old, at length turban-ſhaped and viſcid. *Stem* cylindrical, brown yellow, eſpecially in its horizontal ſection. *Fl. ſuec.*

GILLS decurrent, not numerous.

PILEUS convex, edge thin, rather turned down, about 2 inches over.

STEM ſolid, cylindrical, paler brown than the pileus, 1½ inch high, thick as a gooſe-quill. Taken from a beautiful drawing and diſſection ſent me by Mr. STACKHOUSE.

Plantations near Bath. Mr. STACKHOUSE.

§ II. SOLID and FIXED.

* GILLS white.

AGA'RICUS *grave'olens*. Gills white, very numerous, irregular, 4 in a ſet. Pileus white. Stem white, tapering downwards.— *ſtrong ſcented*

GILLS fixed by a ſmall claw, white, very numerous, irregular, moſtly 4 in a ſet.

PILEUS dead white, convex, yellowiſh in the center, 3 to 4 inches over. *Fleſh* thick, white, ſpongy.

STEM ſolid, white, fibrous, ſplitting, crooked, compreſſed, tapering downwards, 2 inches high, near 1 inch diameter; ſpongy and white within.

The want of a Wrapper and Curtain diſtinguiſhes this from the Ag. *bulboſus*. The Gills are diſpoſed to ſeparate from the pileus as the tubes of ſome of the Boleti do. It is very ſtrong and unpleaſant in its ſmell, ſo that it is not an agreeable taſk to go through the examination of it.

Red Rock plantation, Edgbaſton. 20th May, 1792.

* AGA'RICUS *fimbria'tus*. (BOLT.)—Gills watery white, 4 in a ſet, nearly gelatinous. Pileus watery white, funnel- *curled*

funnel-ſhaped, curled at the edge. Stem duſky watery white.—

Bolt. 61.

Gills fixed, very long and narrow, thin and delicate, pellucid, turning to a watery jelly when preſſed.

Pileus convex when young, ſoon becoming flat, and then funnel-ſhaped, the edge waved and curled, the ſurface ſmooth like vellum, 3 or 4 inches over.

Stem ſolid, ſmooth, tough, pellucid, 1 inch high and full ¼ diameter.

Bolton.

I ſhould have conſidered this as a variety of the Ag. infundibuliformis, had not Mr. Bolton aſſured me that the Gills are not decurrent, and that they ſeparate from the ſtem in the old age of the plant.

Moiſt woods about Halifax. Auguſt.

concave AGA'RICUS *depreſ'ſus*. Gills white, 4 in a ſet. Pileus pinky or browniſh white, center much depreſſed, edge turned down. Stem pinky white. Juice milky.—

Gills fixed to the top of the ſtem, but not extending down it; white, yellowiſh with age, numerous, 4 in a ſet.

Pileus pinky or browniſh white, much hollowed in the center, but the edge generally turned down; glutinous, 4 or 5 inches diameter. *Fleſh* ſpongy, white, or pinky.

Stem ſolid, white, with a pinky tinge; 3 to 4 inches high, ½ inch diameter, thickeſt downwards.

Juice dilutely milky, that of the Gills more milky than that of the other parts; very acrid.

Edgbaſton Park. 14th Oct. 1790.

cream-coloured AGA'RICUS *æſti'vus*. Gills watery white, claws pure white. Pileus cream colour. Stem whitiſh. Ring permanent.—

Gills ſlightly fixed to the ſtem, watery white, changing to reddiſh brown when dry, numerous, 4 or 8 in a ſet, but the claws by which the long Gills are fixed to the ſtem pure white, not turning brown when dry.

Pileus cream-coloured, deepeſt in the center, gently convex, edge turned down, 2 inches over, the ſkin cracking with age. *Fleſh* white.

Stem ſolid, browniſh, fleſh white, whiteſt and pith-like in the center, 2 inches high, thick as a ſwan's quill, thickeſt upwards.

Curtain

Curtain white, when torn turned down on the ſtem; permanent.

Edgbaſton, on turf lately mown. 16th June, 1792.

AGA'RICUS *la'cer.* (SCHÆFF.)—Gills white, fleſhy, irregular, connected by tranſverſe ligaments. Pileus livid, watery white, boſſed, tearing at the edge. Stem white, crooked.— *lacerated*

Schæff. 257.

GILLS fixed, pure white, fleſhy, not numerous, 2, 3, or 4 in a ſet, but moſtly 4, the long ones ſometimes forked; they are connected by white threads to the pileus and to each other.

PILEUS livid watery white, edge firſt turned in towards the ſtem, then turning up, irregular, cracking and tearing, center boſſed, ſurface ſcored, 1 to 2 inches over. *Fleſh* white.

STEM ſolid, white, crooked, nearly cylindrical, often compreſſed, rarely quite central, 2 inches high, full ¼ inch diameter.

This has very much the habit of the Ag. aurantius, but the ſolid ſtem, and the want of ſlimy ſurface diſtinguiſh it. The drawings of Schæffer 257, are very characterestic, but the colouring not very exact.

Edgbaſton, after much gentle rain, by the long ſtew. 12th Oct. 1791.

AGA'RICUS *opa'cus.* Gills white, numerous, 2 or 4 in a ſet. Pileus dead white, nearly flat. Stem white, pith brown.— *opake*

GILLS fixed, white, very thick ſet, and very fine, in pairs or in fours.

PILEUS white, opake, ſmooth, nearly flat when expanded, but a little turned down at the edge, and a very ſmall protuberance in the center, cracking when old, and the ſkin readily peeling off, diameter 1½ to 2 inches.

STEM ſolid, white, cylindrical, 2 inches high, ¼ inch diameter, filled with a watery, and, when old, with a browniſh pith.

Edgbaſton Park. 14th April 1792.—9th Sept. 1791.

* AGA'RICUS *fra'grans.* Gills brown white, 4 in a ſet. Pileus brown white, ſemi-tranſparent. Stem brown white.— *fragrant*

GILLS fixed, beautifully regular like the teeth of a very fine comb.

PILEUS not fleſhy, but ſomewhat tranſparent, from ½ to 2 inches over.

STEM

Stem ſolid, 1 to 2½ inches high, as thick or thicker than a ſwan's quill.

This Agaric is by no means uncommon with us, and if it grows in other parts, it is matter of ſurpriſe that it ſhould have remained unnoticed ſo long. It imparts a fragrant odour like that of new mown hay. Its colour approaches nearly to our general notion of a ſtone colour, and does not vary throughout the different parts of the plant. The tranſparency of the pileus ſhewing the form of the Gills through its ſurface, it might be called ſtriated, as well as other fleſhleſs Agarics; but this diſtinction, when it does not ariſe from colour, or ſome peculiar ſtructure of the pileus itſelf, is with more propriety omitted. Major Velley.

Among the firs on Claverton Downs, near Bath.

ſcaly AGA'RICUS *furfuro'ſus*. Gills watery white, 2 or 4 in a ſet, but irregular. Pileus yellow brown, ſcaly. Stem yellow brown, crooked, ſcored.—

Gills fixed, watery white, turning to a browniſh caſt with age, not numerous, 2 or 4 in a ſet, but very irregular.

Pileus yellow brown, ſcaly, conical when young, turning up and cracking at the edge with age; very uneven, not fleſhy, ½ to ¾ inch over.

Stem ſolid, yellowiſh brown, ſplitting, crooked, ſcored or rather fluted with longitudinal furrows, thick as a raven's quill, ¾ to 1 inch high. *Root* a roundiſh knob.

From the turning up of the pileus and the grooves on the ſtem, the Gills get rather a decurrent appearance.

Filbert hedge, Edgbaſton Gardens. 18th June, 1792.

ſpindle-ſtemmed AGA'RICUS *cras'ſipes*. (Schæff.)—Gills white, browniſh at the edges, fleſhy, diſtant, 4 in a ſet. Pileus reddiſh brown, boſſed, cracking. Stem greatly tapering downwards, ribbed.—

Schæff. 88. 1.—*Bull.* 106, *and* 516, 2, *but the boſs not ſufficiently marked, particularly in the latter plate.*—*Schæff.* 87. *f.* 1. 2. 3, *only; the lower figures being a different plant.*

Gills fixed, white, ruſty brown at the edge, fleſhy, wide apart, 4 in a ſet, the ſmalleſt ſeries very ſmall for the ſize of the plant.

Pileus reddiſh brown, ſmooth, and leathery, rather flat, but boſſed in the center, cracking, 2½ inches or more in diameter.

Fleſh white.

Stem ſolid, tapering downwards to a point, ribbed, crooked, pale brown above, deep red brown below.

Agrees

Agrees very well with BULLIARD 106, except in lying on the ground, for mine were immerſed near half the ſtem in the earth, and grew tolerably upright, ſupporting one another. Specimen and deſcription from Mr. STACKHOUSE, who has made a much better drawing of it than any of the figures extant, as he has alſo done of many more Britiſh ſpecies, the inedited particulars of which I hope he will ſome day be induced to publiſh.

Foot of trees, Woolhope, Herefordſhire.—At the baſe of decaying trees, frequent. Mr. WOODWARD.

AGA'RICUS *muſca'rius*. (LINN.)—Gills white, ſhort ones ſolitary. Pileus browniſh or reddiſh, convex. Stem ſcaly. Ring broad, turned down.— *fly*

Pileus large, rather flat, generally red, ſprinkled with downy angular warts. *Gills* flat, inverſely ſpear-ſhaped, moſtly entire, the few ſhorter ones very blunt, and without other ſmaller ones on each ſide them, which is peculiar to this ſpecies. *Stem* cylindrical, a cavity within it,* baſe bulbous, warty, top expanded. *Ring* on the middle of the ſtem, looſe, pendant.

Varies with the Pileus, *white* or *red*, or *crimſon*, and *warty*.

Mixed with milk it kills flies. The expreſſed juice rubbed on walls and bedſteads expels bugs. LINN.

GILLS fixed, white, yellowiſh with age, numerous, moſtly uniform, but a ſhorter one ſometimes intervening. Theſe ſhorter Gills vary very much in length, but are rarely leſs than 1-third the length of the long ones.

PILEUS varying much in colour, very fleſhy, convex, turning up with age, 2 to 7 inches over. *Fleſh* white, reddiſh in decay. *Warts* raiſed, compact and angular; or thin, flat, and ragged.

STEM ſolid, the internal ſubſtance ſhrivelling with age leaves irregular hollows; ſcaly, bulbous at the baſe, 3 to 5 inches high, $\frac{3}{4}$ to $1\frac{1}{2}$ diameter.

Ring broad, permanent, turned down upon the ſtem.

Ag. ſtipitatus, lamellis dimidiatis ſolitariis; ſtipite volvato, apice dilatato, baſi ovato. *Fl. Suec.* 1235.

This plant riſes out of the ground incloſed within its brown ſtudded wrapper (*Volva* of ſome authors, but not of LINN.) A ſection made vertically ſhews all the parts in their original poſition, and alſo the Curtain (the real *Volva* of LINN.) which remains long after, forming when torn by the expanſion of the pileus, the broad ring upon the ſtem deſcribed above. The Warts upon the pileus are

* Only hollow when old. WITH.

are fragments of the wrapper, a fact which I was for a time indiſpoſed to credit, becauſe they often adhere ſo ſtrongly to the pileus as not to ſeperate without tearing up its ſkin.

VAR. 1. Pileus white, warts yellowiſh. Stem white.

In this variety a ſhort Gill, or a Gill of a third ſeries, ſometimes appears. Pileus but 2 inches diameter; ſtem 2 inches high.

Edgbaſton. 16th Sept. 1791.

* VAR. 2. Pileus blood red, without warts.

Bolt. 27.—*Schæff.* 28.

Stem browniſh white.

Dry woods about Halifax, Yorkſhire. Mr. BOLTON.

* VAR. 3. Pileus blood red, with white warts.

Bull. 122.—*Schæff.* 27.—*Cluſ.* ii. 280.—*Ger. em.* 1581. 3.—*(Cop. in the following,) J. B.* iii. 841. 2.—*Park.* 1321. 8.—*Sterb.* 22. *A.*

Stem white.

Plantation, on the South bank of the upper pool, at Hatton, near Shiffnal, Shropſhire. June.

* VAR. 4. Pileus pale red, with reddiſh warts.

Bull. 316.—*Schæff.* 261.—*Bolt.* 139.

Mr. Bulliard ſays the Gills are looſe, but Mr. Bolton obſerves that they adhere by a ſmall claw to the top of the ſtem. The latter ſays it has no wrapper, but the former obſerves that it has an imperfect one which diſappears in the progreſs of the growth of the plant; and this alſo is the opinion of Schæffer. *Stem* white above, pinky below.

In a dry gravelly ſoil near Leebridge.

12th June, 1790. Mr. BOLTON.

* VAR. 5. Pileus pinky brown, with whitiſh, flat, thin, ragged warts.

Schæff. 90. *f.* 1. 3—*but the drawing of the Gills does not agree with the deſcription.*

Warts irregular in ſhape, in cluſters, light browniſh colour and wrinkled, adhering ſlightly to the pileus, and may be rubbed off. Mr. STACKHOUSE.

VAR. 6. Pileus pinky brown, ſattiny, with ſmall, angular, hard, greyiſh warts. Stem browniſh white.

Curt. 312.—*Schæff.* 90. 2. 4. *and* 91; *(but the drawing of the Gills does not accord with our plant, nor with the author's own deſcription.)*—*Mich.* 78. 1.

Stem pinky brown, or browniſh white; *Ring* reddiſh buff. *Fleſh* white, getting a pinky tinge after being ſome time expoſed to the air.

The 5th and 6th varieties conſtitute the *Verrucoſus* of Mr. Hudſon, who refers alſo to Haller, 2397, which is a different plant, the ſame as Bauh. hiſt. iii. 826, Sterb. 20. K. and Ray ſyn. 7. 31.

Ag. verrucoſus. HUDS.

Edgbaſton

Edgbaſton Park, where graſs had been mown. May. Aug.—Nov.

* Var. 7. Pileus dirty yellow, with dull red clouds.

Curt. 312.—*Mr. Stackhouſe's drawing.*

Pileus ſmooth, glutinous. *Warts* light-coloured, thin, crumpled. *Stem* ſlightly tinged with red. *Ring* beautiful, ſtanding aloof from the ſtem in a wavy line, and finely ſtriated.

Pendarvis, Cornwall. 28th July, 1790.

* Var. 8. Pileus olive brown. Warts black.

Pileus in colour not unlike the bark of a young Aſh tree. Warts irregular, large, blackiſh. Mr. Stackhouse.

Paſture land, Woolhope, Herefordſhire.

Var. 9. Pileus olive brown, without warts. Gills 4 in a ſet.

This turns up with age, not in the uſual mode at the edge, but the whole pileus doubled together.

Fir plantations, Bar, Staffordſhire. Sept.

I have been the more particular in the diſplay of this ſpecies and its different varieties, on account of the great confuſion cauſed by the latter, the various times it has been figured under different names, and the authority of Mr. Hudſon, who has made two ſpecies out of one, and has inadvertently quoted as a ſynonym ſtill another, and really a different plant.

AGA'RICUS *ter'reus.* (Schæff.)—Gills white, numerous, 8 in a ſet. Pileus brown, ſhaded, convex, irregular, cracking. Stem white, conical, eccentric.— *dirt-coloured*

Schæff. 64. 1. 2. 3.

Gills fixed, watery white, numerous, 8 in a ſet, the ſmaller Gills varying much in length.

Pileus light watery brown, with various ſhades, ſcored, convex, rather boſſed, edge turned down, and the ſides with 1 or 2 large irregular depreſſions, cracking with age, 2½ to 4 inches diameter. *Fleſh* white, ſpongy.

Stem ſolid, white, ſmooth, rather crooked, tapering to the root, rarely central, 2½ inches long, ½ inch diameter. Ray ſyn. 5. 21. which Mr. Curtis would not have aſſigned to the Ag. *ovatus*, had he ſufficiently conſidered the deſcription of Ray.

In cluſters. Edgbaſton, under the large oak by the bolt of the ſquare ſtew. 4th Sept. 1791.

Var. 1. Gills white, 4 in a ſet, wide a-part. Stem tapering upwards.

Schæff. 64. 4.—*Fl. dan.* 832. 3, *ſeems to be the ſame plant, of a dwarfiſh growth, and a rough pileus.*

Gills fixed, very white, fleſhy, broad, wide aſunder, 4 in a ſet

Pileus reddiſh mouſe, ſattiny, convex but uneven, 3 inches diameter, oblique.

Stem

STEM ſolid, very white, crooked, tapering upwards, many united together at the baſe, 2 inches long, ½ inch diameter.

Coplar wood, Herefordſhire. Sept. 1791.

Specimen, deſcription, and a drawing from Mr. STACKHOUSE.

VAR. 2. Gills 8 in a ſet. Pileus ſcaly. Stem thinneſt in the middle. Root bulbous.

In the Garden at Edgbaſton. 18th June, 1792.

* VAR. 3. Pileus livid, conical, boſſed. Gills dirty white. Stem crooked.

Schæff. 14.

Stem irregularly hollow when old, and often ſo much curved that the pileus is bent down to the ground. *Pileus* very variable, ſomewhat hairy, paler when old, and the border frequently ſplit. Mr. WOODWARD.—The death-like paleneſs of the Gills diſtinguiſhes this plant. The hue of the pileus variable, but moſt frequently of a dove colour. Schæffers t. 14, the Gills ill-coloured. This Agaric frequently comes up in waved lines of a conſiderable extent, or in great circles, 10 or 15 yards in diameter. Major VELLEY.

Ag. lividus. HUDS. 616. RELH. 937.

Woods and hedges. [Pine grove, Kirby. Mr. WOODWARD.] Oct. April.

* VAR. 4. Gills extremely white. Pileus mouſe colour, ſhaded with brown. Stem cylindrical, thick, dirty white, ſtraight.

Gills not reaching the ſtem, but leaving a channel round it. *Pileus* flat, 2½ inches over. *Stem* 2½ inches high, ½ inch diameter, ſplitting. Drawing and deſcription from Mr. STACKHOUSE.

Grows in long extended lines; in woods near Bath. Mr. STACKHOUSE.

pale-faced AGA'RICUS *leucoceph'alus*. (BULL.)—Gills white, 4 in a ſet. Pileus, center mouſe, convex, border white or pinky. Stem white, cylindrical, crooked, brittle.—

Bull. 536.—*Bull.* 428. 1, *more boſſed than our ſpecimens.*

GILLS fixed, white, brittle, 4 in a ſet.

PILEUS convex, ſilky, center dilute mouſe, lightly ſhaded off, border white, when young ſometimes tinged with pink, cracking with age, 1½ to 4 inches diameter.

STEM ſolid, white, cylindrical, but often compreſſed, crooked, ſilky, 1 to 2 inches high, ¼ to ½ inch diameter. Central when young, not always ſo in a more advanced age.

Grows in cluſters; paſture land, Edgbaſton, particularly by the long ſtew. 27th Oct. 1790.

AGA'-

* AGA'RICUS *plumo'ſus.* (BOLT.)—Gills white, 4 in a ſet. Pileus convex, mouſe-coloured, tufted. Stem mouſe-coloured, tufted, cylindrical, crooked.— *feathered*

Bolt. 33.

GILLS fixed, white, broad, numerous, dry and light.

PILEUS thickly covered like the ſtem with mouſe-coloured downy matter, thin, light, dry, flexible, 1½ inch over.

STEM ſolid, hard, thick as a duck's quill, 4 inches high. *Curtain* white, evaneſcent. BOLTON.

In a ſteep wood near Halifax. Aug.

AGA'RICUS *gra'cilis.* Gills pure white, ſtrong, not crowded, 8 in a ſet. Pileus pure light brown, flat, thin, boſſed. Stem tall, ſlender, browniſh.— *elegant*

GILLS fixed, very white, rather diſtant, fleſhy, regularly diſpoſed 8 in a ſet.

PILEUS cool brown, ſhining with moiſture but not viſcid, thin, nearly flat, but a gentle riſing in the center and radiated round the boſs, diameter 3 to 4 inches.

STEM ſolid, ſmooth, ſattiny, white at the top and bottom, pale mouſe in the middle, 8 inches high, ¼ inch diameter, gently tapering upwards, ſplitting. *Fleſh* brown, white in the center.

VAR. 1. Gills very much branched. Stem entirely white.

Edgbaſton, Red Rock plantation. Aug. Sept. 1791.

AGA'RICUS *elaſ'ticus.* Gills white, 4 in a ſet. Pileus cheſnut, ſemi-globular. Stem buff, tapering upwards and downwards. Ring none.— *elaſtic*

Schæff. 87. 4. 5. *(but the ſtem too red and too much ribbed.)*—*Bull.* 516. 2, *reſembles it, but this plate is ſo far unfiniſhed that I cannot quite decide until the text ſhall be publiſhed. The author calls it* fuſipes, *which he figured before in plate* 106, *but if it be only a variety of that, his own obſervations at the foot of the plate muſt prove unfounded. The ſmaller figures give a pretty exact idea of our plant, but the ſtems have too much colour.*

GILLS fixed, whitiſh, 4 in a ſet.

PILEUS cheſnut colour, ſemi-globular, uniform, clothy.

Fleſh white, moderately thick.

STEM ſolid, buff, with a few ſmall red brown blotches, ſmooth, 1½ to 2 inches high, ⅛ inch diameter, tapering upwards from ½ inch above the ground, and from the ſame part rapidly tapering downwards ſo as to end in a ſlender root; ſometimes rather ribbed.

This Agaric is very tough and ſtrong, with a conſiderable ſhare of elaſticity. Mr. Stackhouſe obſerves that the edge of the pileus coops in like the button of a common Muſhroom, that the Gills are numerous, ſtiff, and white, that it is often found not in cluſters, and that in many inſtances it approaches the Ag. *craſſipes*. To this opinion I perfectly agree, and further remark, that the tendency to a ribbed ſtem in ſome of the ſpecimens ſtill increaſes the affinity; but until the Ag. *craſſipes* ſhall be better known, eſpecially in its younger and ſmaller forms, I think the difficulties will ſooner be cleared up by keeping them apart. The want of a boſs on the pileus, the abſence of cracks in its ſkin, the want of ſtrongly marked ribs on the ſtem, and more than all, the tough elaſtic ſubſtance of the plant, prevent me at preſent from arranging it as a variety of the *craſſipes*.

Not Ag. elaſticus. BOLT.

Under oak trees in Edgbaſton Park. 21ſt Aug. 1791.

VAR. 1. Gills brown white, ſhallow, 4 in a ſet. Pileus brown, convex, ſattiny. Stem white. Ring none.

GILLS fixed very ſtrongly to the ſtem, browniſh white, very narrow, 4 in a ſet, the ſmaller ſeries often hid under the edge of the pileus, which turns inwards over them.

PILEUS brown, ſattiny, ſhining, convex, 2½ inches over. *Fleſh* very thick, white.

STEM ſolid, white, ſattiny, cylindrical, rarely ſtraight, 2 inches high, ½ inch diameter.

I have not been able to find either a Curtain or a Ring.

The whole ſubſtance very ſtrong and elaſtic. It grows ſingle or in cluſters.

Under the large oak by the bolt of the ſquare ſtew, Edgbaſton Park. 18th Sept.

ſtump AGA'RICUS *ſtip'itis*. Gills white, 4 in a ſet. Pileus cool brown, darker and woolly in the center. Stem pale brown with a buffy tinge, thicker and bulbous at the baſe. Ring white, permanent.—

Bolt. 136.—*Mich.* 81. 2.

GILLS fixed, quite white, narrow, thin, pliable.

PILEUS at firſt bluntly conical, then nearly flat, almoſt white at the edge, cracking very much through the whole ſubſtance, but not turning up, 2 to 4 inches over.

STEM cool brown, 3 to 4 inches high, ½ inch diameter. *Curtain* thick, tough, cottony, white.

Edgbaſton Grove, where large trees had been fallen four or five years before. 2d Oct. 1791.

VAR.

Var. 1. Gills white, 4 in a set. Pileus rich brown. Stem pinky or brownish white, tapering at the base. Ring yellowish.
Fl. dan. 1013.—*Schæff.* 74.

Gills strong.

Pileus at first bluntly conical, dark reddish brown and woolly at the apex, the edge olive brown; afterwards a more uniform rich brown.

Stem cylindrical, rarely straight, tapering greatly downwards at the root.

In similar situations with the preceding. Oct.

Var. 2. Gills white, fleshy, 8 in a set. Pileus dark brown and olive. Stem nearly white, cylindrical. Curtain and Ring yellow.

Pileus dark and woolly in the centre, border rich yellow olive, 1 to 1½ inch diameter, cracking and turning up when old.

Stem white, with a pinky or brownish tinge, cylindrical throughout, 2 to 3 inches high. *Curtain* cottony, pale yellow. *Ring* deeper yellow. A much smaller plant than the preceding varieties.

On a hedge bank in the Edgbaston old road. 25th Sept.

Var. 3. Gills white, 4 or 8 in a set. Pileus convex, different shades of brown. Stem nearly cylindrical, brownish. Curtain woolly. Ring broad, turned down on the stem, permanent.

Gills fixed, white, 4 or 8 in a set.

Pileus various shades of yellow, red, or olive, to cool pale brown, darker in the center, convex, slightly bossed, edge turned down, cracking when fully expanded, 1½ to 4 inches over. *Flesh* white.

Stem solid, spongy, smooth, from rich red brown to nearly white, cylindrical, seldom straight, silky, shining, 2 to 4 inches high, ½ inch diameter.

Ring permanent, formed by the curtain, which is thick, tough, and woolly, turning down upon the stem. The curtain in the young state of the plant extends up the stem quite to the Gills, and then stretches downwards to the edge of the pileus, forming striæ or rising scores upon the top of the stem, to which the Gills are not connected, but which on a careless examination gives them an appearance of a decurrency, not really existing.

Grows in large clusters in the hollows left by the felling of trees. Sept. Oct.

Var. 4. Gills dusky white, fleshy, tough, distant, 4 in a set. Pileus convex, rust-coloured. Stem rust-coloured, tapering upwards. Ring white, tough, permanent.
Bolt. 16.

Gills adhering to the stem by a narrow claw.

Pileus 1 inch diameter, feeling like harsh woollen cloth. *Flesh* white.

Stem solid, firm, elastic.

The whole plant of a tough leathery ſubſtance, and in decay dries and withers. Fixby Park, under oak trees. Oct. 1786. BOLTON.

* VAR. 5. Gills white, in pairs. Pileus fox-colour, convex. Stem browniſh. Ring white, permanent.

Bolt. 19.—*Battar.* 11. *F.*

GILLS few, narrow, brittle.

PILEUS clothy, not much broader than the top of the ſtem, convex.

STEM thick as one's thumb in the largeſt plants, cluſtered together, and uniting near the root.

Curtain narrow, dead white, ſoft, cottony. Subſtance dry, light, ſpongy, compreſſible, elaſtic.

Takes root under the bark of decaying larch trees. In a ſmall plantation at Lee Bridge, near Halifax. Autumn. BOLTON.

cupped * AGA'RICUS *cyathoi'des.* (BOLT.)—Gills white, 4 in a ſet, changing to browniſh white. Pilieus umber brown, flat, but ſoon turning up. Stem grey white, with whiter reticulated veins.—

Bolt. 145; *(but none of the references.)*

GILLS fixed.

PILEUS thin, ſmooth, ſilky, 2 or 3 inches over, ſoon turning completely up ſo as to form a funnel-like cup, which ſometimes contracts partially ſo as almoſt to form diſtinct cups.

STEM ſolid, conſiſting of a ſtrong rind, filled with a white ſpongy pith. Surface duſky white, marked with longitudinal reticulations of a whiter colour. BOLTON.

Grew under an old melon frame. Feb.

circled AGA'RICUS *zona'rius.* (BULL.)—Gills buffy white, 4 in a ſet, but irregular and variouſly branched, Pileus pale brown, with darker circles, gently convex, edge turned in. Stem nearly cylindrical, buffy white.—

Schæff. 235, *(very exact to our ſpecimens.)*—*Bull.* 104, *the plant, but paler than ours.*

GILLS fixed, white, with a very pale buffy tinge, numerous, 4 in a ſet when regular, but the long ones often ſplitting, and then the ſmaller ones are excluded.

PILEUS pale brown, with concentric circles of a reddiſh brown, ſmooth, flattiſh at the top or rather a little depreſſed, ſides bent down and a little turned in, 1½ to 3 inches over.

Fleſh white, thin.

STEM ſolid, white, with a ſlight buffy or pinky tinge, cylindrical, or a little tapering downwards, rarely quite ſtraight, or quite central, 1½ inch high, ⅛ inch diameter.

Mil

Milk in the Gills and cortical part of the Pileus abundant, white, very acrid.

Dam of the great pool in Edgbaſton Park, plentifully, but I have not found it elſewhere. 4th Aug.

AGA'RICUS *in'teger*. (LINN.)—Gills white, moſtly uniform. Pileus of various tints from red to brown. Stem white.— *crimſon*

GILLS fixed, white, moſtly uniform, fleſhy, moderately thick ſet, yellowiſh with age.

PILEUS crimſon, pink, lilac, or tawny brown, changing to dirty yellow, or to lead colour; often glutinous, regularly convex, often ſcored at the edge, which turns up when old; from 1 to 4 inches over. *Fleſh* white.

STEM ſolid, white, cylindrical, 1½ to 2½ inches high, ½ to ¾ inch diameter.

Ag. ſtipitatus, lamellis omnibus magnitudine æqualibus. *Fl. Suec.* 1230.—Ray *Syn.* p. 4. n. 16.

This is a very common Agaric, and one of the moſt beautiful of the tribe, but its evaneſcent and varying tints, as well as the great differences in its ſize, are apt to puzzle the younger botaniſts. The ſkin of the pileus is very ready to ſtrip off. Snails are very fond of this ſpecies.

VAR. 1. Gills uniform, connected by croſs threads. Pileus pink to lilac.

Bolt. 1.—*Schæff.* 58—75—92, *are all repreſentations of this plant, in general pretty well done.*†—*Battar.* 15. *C. E.*—*Fl. dan.* 1009. 1, *a young plant only.*—*Batſch.* 13, *far from good.*—*Sterb.* 22. *F.*

Pileus plano-convexus, vix carnoſus, pallidus aut ſanguineus, margine ſupra ſulcato punctiſque ſtriato, a lamellis verſus marginem interiorem capituli ab initio denticulato-connexis. *Lamellæ* pallidæ et notanter omnes integræ ſ. equales. Stipes magnus, albus. Fl. Suec. 1230. *β.*

Paſtures, partilularly under trees. Aug.—Nov.

VAR. 2. Gills moſtly uniform, yet with a ſhorter one ſometimes intervening; connected by croſs threads. Pileus crimſon.

† The Gills in moſt of Schæffer's plates of this plant, are erroneouſly drawn, I ſay erroneouſly, becauſe his own deſcriptions often differ from the drawings. Thus in pl. 58, 92, he particularly deſcribes the Gill as *equal*, but in the fig. they are of two different lengths, except only in pl. 92. f. 2. The ſame may be ſaid of pl. 93, 94, where they are deſcribed as equal, but figured of two or even three different lengths. I don't know that theſe varieties, viz. Schæff. 93, 94, have yet been ſeen in England.

Schæff. 15—16.

This is the moſt common one, is found in ſimilar ſituations and ſeaſons with the former. The threads or ligaments connect the Gills with each other and with the Pileus. They are white, and are moſtly found pretty cloſe to the inſide of the pileus.—Ray *ſyn.* p. 3. n. 7, probably this plant.

VAR. 3. Gills often forked, ſometimes at both ends, and inoſculating with thoſe on each ſide. Pileus blood red.

Bull. Ag. ſanguineus.

Stem a kind of horny coat filled with a ſpongy matter. This circumſtance is more obvious in this than in the other varieties, but I can find no other difference.

Paſtures, particularly under large oaks, Edgbaſton. 10th Aug.

VAR. 4. Pileus delicate grey, changing to lead colour.

Herefordſhire. Pendarvis, Cornwall. Mr. STACKHOUSE.—Dam of ſquare ſtew, Edgbaſton. 17th Oct.—Tettenhall plantations. July.

VAR. 5. Pileus dirty yellow. Gills yellowiſh, uniform.

GILLS fixed, perfectly uniform, yellow or yellowiſh white.

PILEUS convex, center hollow when fully expanded, viſcid, yellow; in ſome ſpecimens quite yellow in the center, buffy on the ſides, and with ſtill more of a reddiſh tinge at the edge; 4 inches over.

STEM ſolid, but ſpongy; white, or yellowiſh white, tapering upwards, 2 inches high and 1 inch diameter.

There is little doubt but Mr. Hudſon's luteus, rejecting the Synon. of Vaill. is a variety of integer. Mr. WOODWARD.

Ag. luteus. HUDS.

Mr. Hudſon remarks the affinity of this to the Ag. integer, and I ſuſpect that its differences ariſe from growing in the ſhade of trees.

Meadows and paſtures under trees and in groves. Aug. Oct.—Under a large oak in Edgbaſton Park. 10th July, 1792.—At Woolhope, Herefordſhire.—Mr. STACKHOUSE.

* VAR. 6. Pileus dirty yellowiſh or reddiſh. Gills very white, unequal, Juice milky, mild. Drawing and deſcription from Mr. STACKHOUES, who found it on Coplar Hill, near Hereford.

flat-topped AGA'RICUS *trunca'tus.* (SCHÆFF.)—Gills dirty white, in pairs. Pileus brick red, conical but flat at top when young. Stem whitiſh, cylindrical, ſwollen at the root.—

Schæff. 251.

Gills

Gills fixed. *Pileus* conical but flat at the top when young, changing to convex, and nearly flat when old; 2 inches over. *Stem* ſolid, 1½ inch high, ⅛ inch diameter, ſwollen and brown at the baſe. SCHÆFFER.

Ag. viſcidus. HUDS. 614. 18.

This is introduced from Schæffer on the authority of Mr. Hudſon, who refers to it as a ſynonym to the Ag. viſcidus of Linn. which is a very different plant to this of Schæffer; but as the character Linnæus gives to his viſcidus could never lead Mr. Hudſon to this plant of Schæffer, I muſt ſuppoſe that he had found the latter to be the plant before him, and only erred in referring it to the ſpecies of Linnæus. Mr. Hudſon likewiſe refers to Scop. 1477, but Scopoli refers his ſpecies, which he calls *purpuraſcens*, to Fl. Suec. 1232, and theſe ſeem alſo to be Schæffer's plant. The real Ag. viſcidus of Linnæus has lately been found in England, and will therefore be introduced in its proper place.

Woods and groves. Sept. Oct.

* AGA'RICUS *cro'ceus*. (BOLT.)—Gills white, 4 in a ſet. Pileus rather conical, knappy, yellow. Stem white, in part covered with yellow knap.— *ſaffron coloured*

Bolt. 51. 2. *drawing too ſmall.*—*Bull.* 362, *larger and more of a brown caſt.*—*Batſch.* 97.

Gills fixed, numerous. *Pileus* at firſt conical. *Stem* cylindrical, ſolid, 3 inches high, thick as a ſwan's quill; white, but more than half its length covered with a woolly knap of a yellow colour. *Curtain* fugacious, fixed to the ſtem where the woollineſs ends. BOLT.

GILLS numerous, unequal, pure white.

PILEUS golden brown, velvety, convex.

STEM colour of the pileus as high as the ring. *Curtain* delicate, brown, ſeparating in fringes on the edge of the pileus and on the ſtem. Mr. STACKHOUSE.

In the Burks, and other woods about Halifax.—Comb Woods, near Bath. Mr. STACKHOUSE.

AGA'RICUS *elephanti'nus*. (BOLT.) — Gills yellowiſh white, fleſhy, wide apart, 4 in a ſet. Pileus brown yellow, changing to black, and cracking. Stem white.— *elephant*

Bolt. 28.—*Battar.* 9. *A.*

GILLS fixed, yellowiſh white, very fleſhy, ſet wide aſunder, 4 in a ſet.

PILEUS brown yellow, viſcid, changing to almoſt black, and cracking like burnt clay; ſemi-globular, but with irregular depreſſions. *Fleſh* white.

STEM

Stem ſolid, white, contracted at the bottom, 2 to 3 inches high, and 2 in diameter.

This and the following ſpecies require further attention to determine whether they really are or are not diſtinct. I am diſpoſed, from their general habits, to believe they are not, but yet I am ſtaggered by the remarkable differences in the ſtructure of the Gills.

Edgbaſton Park, in various places, but always under oak or Spaniſh cheſnut trees. 13th Aug. 1791.

gold-headed AGA'RICUS *aura'tus*. Gills yellow white, uniform, often ſplitting, connected by threads. Pileus golden yellow, viſcid, flat, the ſides turned down. Stem white.—

Gills fixed, yellowiſh white, in one ſeries only, often ſplitting, connected and ſtrengthened by tranſverſe threads or ligaments extending from one Gill to another near the inner ſurface of the pileus.

Pileus deep golden yellow, changing when old to dark blotches as if the effect of fire; viſcid, flattiſh at the top, 5 inches over, about an inch of the border turned down nearly ſquare with the flat top, and parallel to the ſides of the ſtem. *Fleſh* white.

Stem ſolid, white, tapering upwards ſo as to be far thinner at the top, 2 inches high, 1 inch diameter.

When an unexpanded button, the whole plant is entirely white, or entirely yellowiſh. This ſpecies, though ſo large and ſo remarkable, ſeems to have been overlooked. Probably the dark burnt blotches upon the pileus may have cauſed it to be confounded with the Ag. *aduſtus*, before mentioned, or with the Ag. *elephantinus*. The difference however of ſtructure has ſatisfied me that it is not the former ſpecies. Major Velley very juſtly remarked to me, that the *viſcid* Agarics are much diſpoſed to get dark tints. This plant cannot be the Ag. viſcidus of Mr. Hudſon, for he cites, though doubtfully, Vaill. 62. n. 14, which is a plant of no uncommon bulk or ſolidity. The Gills too in his are yellow.

Ag. quinquepartitus. Linn.?

Under a large oak, near the ſecond ſtew, Edgbaſton Park. 21ſt Aug. 1791.

green *AGA'RICUS *vir'idis*, (Ray.)—Gills white, fleſhy, brittle, 4 in a ſet. Pileus blue green. Stem cylindrical, whitiſh.—

Bolt. 12.—*Sterb.* 5. C.—*(Schæff.* 1, *is Ag. æruginoſus.)*

Gills fixed, narrow.

Pileus hemiſpherical, 2 or 3 inches diameter, greyiſh blue, dry, feels like coarſe cloth. *Fleſh* thick, firm, hard, brittle, white.

Stem

Stem solid, dusky white, cylindrical, hard, 3 inches high, thick as a swan quill. Bolton.

Fungus magnus viridis. Ray syn. p. 2. n. 3. — Ag. cæruleus. Bolt. p. 12.

Var. 1. Gills whitish. Stem greenish.

Ag. viridis. Hudson. 614. 16. excluding the references to Haller and Schæffer.

In woods. Aug.—Oct.

** Gills brown.

AGA'RICUS *vacci'nus.* (Schæff.) — Gills pale brown, edge white, 8 in a set. Pileus brown, scurfy, convex, gently bossed. Stem cylindrical, brown. — *brinded*

Schæff. 25; *very good.*

Gills fixed, pale, changing to reddish brown, white at the edge when young, 8 in a set.

Pileus brown, convex, slightly bossed, scurfy with scales of various shades of brown, 1½ to 3 inches over.

Stem solid, cylindrical, brown, scored, 3 to 4 inches high, ¼ to ½ inch diameter, often crooked.

Flesh of the whole plant white, attaining a reddish tinge when exposed to the air.

Plantations in Edgbaston Park. 13th Sept. 1791.

AGA'RICUS *sor'didus.* (Dicks.) — Gills brown, 8 in a set. Pileus darker brown, hollow. Stem cylindrical, brown, bulbous. — *sordid*

Bolt. 59.—*Dicks.* t. 3. f. 1.

Gills fixed, dead brown, 4 or 8 in a set, moderately numerous.

Pileus brown, darker than the Gills or stem, and still darker in the center, funnel-shaped, 1½ to 2½ inches over.

Stem solid, brown, cylindrical but a little swollen at the base to form the root, 2 to 4 inches high, 1-8th to 1-4th inch diameter.

Ag. stipitatus, pileo et lamellis livido-fuscis, centro umbilicato, margine deflexo, stipite basi crassiore.—*Obs.* Pileus totus fuliginosus. Dicks. fasc. cryp. p. 16.

Pastures, Edgbaston. Nov.

Pastures and commons near Bungay. Mr. Woodward. — Woods near Bath. Mr. Stackhouse.

AGA'RICUS *araneo'sus.* (Bull.)—Gills red brown, broad and short, 4 in a set, Pileus brown, conical, cracked. Stem brown, tapering downwards. Curtain pale brown. *broad-gilled*

Bull. 431. 4; *araneosus rimosus.*

Gills

GILLS fixed, reddiſh brown, 4 in a ſet, large Gills nearly as broad as long, and fixed by a claw to the ſtem.

PILEUS convex, rather conical, brown, ſattiny, with cracks of a paler colour from the center to the edge, 1½ inch over. *Fleſh* very thin, pale yellow.

STEM ſolid, brown, ſattiny, cylindrical, but rather thickening towards the bottom, 2 to 3 inches high, 2-8ths to 3-8ths diameter. *Curtain* pale brown, ſattiny, evaneſcent.

Edgbaſton Park. 17th Sept. 1791.

ſtriped AGA'RICUS *rimoſus*. (BULL.)—Gills olive brown, 2 or 4 in a ſet. Pileus ſtriped reddiſh brown and yellow, conical, boſſed. Stem yelloviſh white, cylindrical.—

Bull. 388; *(excellent.)*

GILLS fixed, olive brown, 2 or 4 in a ſet.

PILEUS conical, boſſed, ſtriped red brown and yellow, by cracks extending from the edge to the baſe of the boſs; border uneven, 2 inches over; tearing with age.

STEM ſolid, yelloviſh white, cylindrical, but thickened juſt under the pileus, crooked, ſmooth, 2 to 2½ inches high, thick as a gooſe quill.

Paſtures, Edgbaſton. Early in Aug. to the end of Sept.

Spaniſh ſnuff AGA'RICUS *orichal'ceus*. (BATSCH.) — Gills dark cinnamon, not numerous, 4 or 8 in a ſet. Pileus gently convex, pale cinnamon, edge rather turned down. Stem whitiſh, nearly cylindrical.—

Batſch. 184; *(very good.)*

GILLS fixed to the ſtem by a claw, very broad, dark cinnamon, not very numerous, 4 in a ſet in the ſmaller, 8 in the larger ſpecimens.

PILEUS regularly and gently convex, light cinnamon, ſometimes darker in the center, edge a little turned in, viſcid in moiſt, ſattiny in dry weather; 1 to 3 inches over. *Fleſh* white, not thick. *Curtain* evaneſcent, leaving a ſtain on the ſtem.

STEM ſolid, whitiſh, with a few brown ſcales, often ſtained by the fall of the ſeeds from the Gills, which are of a Spaniſh ſnuff colour, cylindrical, but rather thickeſt upwards; 2 to 4 inches high, ¼ to ½ inch diameter. *Root* a ſmall bulb.

A large quantity of ſeeds fall from the Gills of this Agaric, ſtaining the fingers as well as the ſtem of a Spaniſh ſnuff colour. Stem ſolid, but it has a central pith different in colour from the ſurrounding fleſh.

Plantations at Edgbaſton, and at Bar. Sept.

AGA-

AGA'RICUS *lacticau'lis*. Gills brown, numerous, 2 or 4 in a ſet. Pileus convex, light brown buff, border whitiſh. Stem white, bending, ſplitting.— *milky-ſtemm'd*

(One of the taller fig. in the plate of Bull. 102, if properly coloured, would give a tolerable idea of this plant in its fully expanded ſtate.)

GILLS fixed, brown, very numerous, 2, but moſtly 4 in a ſet.

PILEUS gently convex, nearly flat when fully expanded, cracking in the center, browniſh buff in the middle, paler and almoſt white towards the edge, 2 to 2½ inches over. *Fleſh* very thin, white.

STEM ſolid, white, cylindrical, tender, ſplitting, moſtly crooked, 4 or 5 inches long, thick as a gooſe quill.

Juice of the ſtem dilutely milky, the milk not acrid. The whole plant very tender.

Plantations, Edgbaſton, amongſt old leaves and deep graſs; ſeveral together. 11th Oct. 1790.—25th Sept. 1791.

VAR. 1. Gills light reddiſh brown. Pileus dark red brown, center depreſſed. Stem ſhort.

GILLS fixed, lighter colour than the pileus, numerous, unequal.

PILEUS deep red brown, ſmooth, circular, depreſſed in the center, edge turned down, ½ inch over.

STEM ſolid, ſhort, thick, the ſize of a reed. *Juice* milky, mild.

Specimen and deſcription, (but no habitat,) from Mr. STACKHOUSE.

AGA'RICUS *ſub-purpuras'cens*. (BATSCH.)—Gills brown, numerous, 4 or 8 in a ſet. Pileus brown, convex, concave with age. Stem violet, bulbous.— *violet*

Bull. 439, the lower figures, but they want the purple ſtem.—Batſch. 74—(but I have not obſerved the fleſh to change to violet when cut.)

GILLS fixed, brown, numerous, tender, 4 or 8 in a ſet.

PILEUS brown, convex, regular, ſinking in the center when old, viſcid when moiſt, ſattiny when dry, 2 to 3 inches over. *Fleſh* ſpongy, white.

STEM ſolid, violet colour, ſcurfy, thickening at the top, bulbous at the baſe, 2 to 3 inches high, 3-8ths in diameter.

Mr. Bulliard has figured ſeveral varieties in the plate referred to above, but I think the upper figures ought to rank under the Ag. violaceus, notwithſtanding the want of a curtain.

Paſtures, Edgbaſton. 13th Sept.

*** Gills purpliſh.

cobweb AGA'RICUS *glauco'pus.* (Schæff.)—Gills brown, changing with age to a pinky or lilac tinge, 4 to 8 in a ſet. Pileus cheſnut, ſemi-globular, rather flatted at top, edge rolled in. Stem thick, white or pinky. Curtain cobweb-like.—

Bull. 96; *the habit excellent.—Schæff.* 53, *good; Schæff.* 42. *f.* 1. 2. *in fig.* 3 *and* 4, *the ſtem too long and ſlender.*

Gills fixed, brown; when old changing to a pinky or a lilac colour, ſmall for the ſize of the plant, 4 in a ſet in the younger, 8 in the older ſpecimens.

Pileus uniform, pale cheſnut, covered with a very glutinous varniſh; ſemi-globular, but a little flatted at the top, and the edge conſiderably turned in; 4 inches over. *Fleſh* white, with a pinky tinge.

Stem ſolid, whitiſh, with a pinky or lilac tinge, 2 inches long, 1 inch diameter. *Root* very large, bulbous.

Curtain like a fine cobweb, whoſe threads extend from the ſtem to the edge of the pileus.

Ray *ſyn.* p. 3. n. 13, has been referred to for this plant, and alſo for the Ag. *violaceus* of Linn. but though the general deſcription perfectly accords with *this* ſpecies, yet the white Gills, which are repeatedly mentioned, ſatisfy me that it is a plant different from this as well as from the *violaceus*, which it in no reſpect reſembles, except merely in the colour of the ſtem. Major Velley juſtly remarks, that this plant of Dillenius agrees with 2398 of Haller, who refers to Schæff. 38; a plant not now known to exiſt in England, but probably it will not much longer eſcape the obſervation of our botaniſts.

Ag. *bulboſus*, fl. Angl. is I believe the plant before me. Mr. Hudſon has been cenſured for making this a ſpecies different from the *violaceus* of Linn. but I am ſatisfied that he has done right, and that his character is ſufficient to diſcriminate them. He does not ſay, "lamellis *cæruleis*," but "*cæruleſcentibus*," by which I imagine he means that they attain this colour in the progreſs of growth only, and are not originally ſo. His "ſtipes *brevis*," is very expreſſive, and his character of the Pileus is pretty exact. Had he referred to Schæff. 53, inſtead of 34, which is the violaceus, his readers would have underſtood him better, and his reference to Ray has only ſerved to increaſe the miſunderſtanding. This is one of the Agarics which, as well as ſome of the Boleti, are much diſpoſed when in pickle, to run into the vinous fermentation.

Plantations, Edgbaſton; rare. 5th Sept.

AGA-

AGA'RICUS *viola'ceus*. (LINN.)—Gills purple, *ſnuff* numerous, 8 in a ſet. Pileus purple to brown, convex, edge turned down. Stem purple, cylindrical.—

Ag. ſtipitatus, pilei margine violaceo tomentoſo, ſtipite cæruleſcente lana ferruginea. *Fl. ſuec.* 1226.

Schæff. 3. *fig.* 1. 5. 6, *monſtrous, but not uncommon varieties.—Bull.* 250.—*Bolt.* 52, *tints very deep.—Schæff.* 56, *monſtrous varieties.* —*Mich.* 74. 1. *Buxb.* 4. 22, *not at all characteriſtic.—Buxb.* 4. 11, *a monſter, but the deſcription agrees.—(Buxb.* 4. 9, *certainly not our plant; Batſch.* 22, *very unlike it.)*

GILLS fixed, from pale lilac to deep violet; numerous, 8 in a ſet; long Gills ſometimes cloven.

PILEUS purple, or reddiſh brown, or purple only at the edge, ſoft, ſmooth, firm, convex, but centrally depreſſed with age, and cracking at the edge, which is always rather turned down; from ½ inch to 5 inches over.

STEM ſolid, cylindrical, purple, bulbous at the baſe, from 1 to 4 inches high, and from ¼ to 1 inch diameter. *Curtain* like a cobweb, its fragments ſometimes left hanging to the edge of the pileus.

This ſpecies differs very much in ſize, as well as in its tints. In an advanced ſtate the pileus loſes its lilac colour and aſſumes a ruſſet hue, yet the Gills continue with little or no change of colour. Here I muſt remark, that a more permanent criterion, as to colour, may be looked for in the Gills, than in any other part of the Agarics in general. Major VELLEY.

Pileus large, circular, ſlightly convex, colour various, from the deepeſt purple to a ruſty brown. Gills of a beautiful pale purple, unequal lengths. *Stem* ſhort, thick, ſolid, ſwelling at the baſe. Bulliard remarks a circumſtance which I have obſerved, that in maturity it emits a plentiful powder of the colour of Spaniſh ſnuff. Mr. STACKHOUSE.

Edgbaſton and Bar plantations, not uncommon. Oct.—Dec. Woods near Bath. Major VELLEY.—Powick near Worceſter. Mr. STACKHOUSE.

VAR. 1. Without a curtain. Gills very irregular.

Bolt. 147.—*Bull.* 439. *A.*—*Schæff.* 34.

GILLS violet coloured, irregular in diſpoſition, 2, 3, or 4 in a ſet, turning brown with age.

PILEUS pale brown with more or leſs of a violet tinge, ſmooth, convex and boſſed, when fully expanded concave, ½ to 2 or 3 inches diameter.

STEM ſolid, pale brown with a violet tinge, ſcored, cylindrical upwards but thickening into a bulb at the baſe, 1½ to 2½ inches high, and ¼ to ½ inch diameter.

This

This plant varies very much in ſize, and the violet tints are very evaneſcent.

Ag. bulboſus. Huds.

Bar, Staffordſhire. Edgbaſton, paſtures. Oct.

It is often found with us in ſimilar ſituations with the preceding; nor can I conſider with Mr. Bulliard that the abſence of the Curtain ought alone to conſtitute a different ſpecies.

painted AGA'RICUS *cya'neus.* (Bull.)—Gills brown lilac, numerous, 8 in a ſet. Pileus bluiſh green, gently convex, edge a little turned down. Stem bluiſh green, ſcored, crooked. Curtain white.—

Bull. 170.—*Bolt.* 30.

Gills fixed, brown lilac, white within, generally 8 in a ſet, but in ſome large ſpecimens the 2 longer ſeries of Gills divide towards the edge of the pileus, and then the ſmall Gills are not to be found.

Pileus conical when young, at full growth nearly flat, but a little turned down at the edge; cracking in the center with age; bluiſh green, viſcid, 2 to 3 inches over. *Fleſh* white.

Stem ſolid, bluiſh green, whitiſh with ſcurf when young, crooked, ſcored, 2 to 3 inches high, ¼ to ½ inch diameter. *Root* bulbous. *Curtain* white cottony.

It is remarkable that when the green viſcid mucilage is ſcraped off the pileus, or wears off in its more advanced age, the real colour appears, which is nearly that of copper. Alſo that the Gills are white when their cover of purple paint is removed. The whole ſkin of the pileus eaſily ſtrips off and ſhews the white fleſh underneath.

Rookery, in Edgbaſton Park. Oct. Nov.

garden * AGA'RICUS *tor'tilis.* Gills purpliſh fleſh-colour, few, 4 in a ſet. Pileus red brown, convex, turning up with age. Stem duſky, fleſh-colour.—

Bolt. 41. *A.*

Gills fixed.

Pileus dark reddiſh brown, convex, changing to flat, and then turned up, the edge crumpled and diſtorted in various modes, 2-8ths to 3-8ths of an inch over.

Stem ſolid, ¼ of an inch high, 1-10th in diameter. Bolton.

Rich garden mould, about the roots of umbrageous plants.

* * * * Gills buff.

rummer AGA'RICUS *calyciformis.* Gills buff, very numerous, 4 or 8 in a ſet. Pileus brown buff, entirely inverted. Stem pale browniſh buff.— *Batſch.*

Batſch. 118, *(repreſents our plant, but the Gills in ours are not ſplit, nor have they the leaſt degree of decurrence.)*

GILLS fixed, buff, changing to ſnuff-coloured brown; very numerous, 4 or 8 in a ſet.

PILEUS browniſh buff, deepeſt in the center, wholly turned up, 1 to 2 inches over.

STEM ſolid, but becoming hollow with age, pale browniſh buff, 2 inches high; thick as a raven's quill.

The whole pileus is turned up ſo that the plant appears like a rummer glaſs. I never happened to detect it with the pileus otherwiſe than as deſcribed, ſo that its convex or flat ſtate is probably of ſhort continuance. It requires a further examination.

Plantations in Edgbaſton Park. 5th Nov. 1790.

* AGA'RICUS *il'litus*. Gills buff, narrow, few, 4 in a ſet. Pileus nearly flat, leathery, livid tawny. Stem buff, rather thick.— *gluey*

GILLS fixed, light buff, 4 in a ſet, but irregular, very narrow, very thinly ſet, curling up in drying, and adhering ſo cloſely to the under ſurface of the pileus, by means of a gelatinous matter with which the plant abounds, that each gill aſſumes the appearance of a hollow tube.

PILEUS tawny, inclining to a leaden hue, ſmooth, of a thick leathery texture, but not fleſhy, 1½ inch diameter.

STEM ſolid? light buff, thick for the ſize of the plant. Major VELLEY.

In a pine grove by the ſham caſtle on Claverton Down, near Bath, but rare. Major VELLEY.

AGA'RICUS *ru'ber*. Gills buff, 4 in a ſet. Pileus orange red, flat, border turned down. Stem reddiſh, cylindrical. Juice milky, mild.— *orange-red*

GILLS fixed, pale buff, numerous, 4 in a ſet.

PILEUS full brick red, to cheſnut, flat, but the center depreſſed, and the edge turned down; 1 to 2 inches over.

STEM ſolid, red, cylindrical, ſtrong, 2 inches high, 3-8ths diameter.

Specimen, drawing, and deſcription, from Mr. STACKHOUSE, who found it in woods near Bath; Comb Green. Oct. 1788.

* VAR. 1. Stem much paler than the pileus. Juice yellow.

Bolt. 9; *(not Schæff.* 73.)

Woods about Halifax. Oct. Mr. BOLTON.

***** GILLS

***** Gills yellow.

many ſtemm'd * AGA'RICUS *conna'tus.* Gills pale yellow, 4 in a ſet. Pileus convex, pale yellow, centre tawny. Stem cylindrical, ſmooth, dirty buff. —

Bolt. 148. *(Mich.* 79. 4, *is a very different plant; and Sterb.* 25, *more like Ag. faſcicularis.)*

Varies much in ſize. It is a rare ſpecies.

Gills fixed, arched, narrow, pale yellow, 4 in a ſet.

Pileus convex, thin, ½ to 2 inches over. *Curtain* pale yellow, fugacious.

Stem ſolid, readily ſplitting, 3 inches high, ¼ inch diameter; ſeveral from one root, which is long, taper, fibrous. Bolton.

Ag. ramoſo-radicatus. Bolt. 148.

Plantations, Fixby Hall, and near Darlington.

brittle *AGA'RICUS *fra'gilis* (Linn.)—Gills yellow, 4 in a ſet. Pileus and Stem golden brown. —

Ag. ſtipitatus, pileo convexo viſcido pellucido, lamelliſque luteis, ſtipite nudo.

Vaill. par. xi. 16. 17. 18.—*Schæff.* 230.

Gills fixed, yellow, 4 in a ſet; long ones 16 or 18.

Pileus rich brown yellow, viſcid, convex, at firſt pointed then dimpled in the centre, ſides ſcored, 2 to 3-8th of an inch over.

Stem ſolid, pale or rich brown yellow, tender, watery, viſcid, 1½ inch high, not thicker than a large pin. Vaill. Schæff.—*Stem* tall in proportion, generally curved, ſmooth. *Pileus* thin, without fleſh, thence tranſparent; and from the Gills being viſible through it, ſtriated. *Gills* narrowing at each end. Mr. Woodw. —Very like Ag. *parvus* in its external appearance, and the places of growth are the ſame, but differs eſſentially in ſtructure according to the authors from whom the preceding particulars are taken.

Woods and hedges amongſt moſs and fallen leaves. [Pine Grove at Kirby, Norfolk, on moſs. Mr. Woodward.] Aug.—Oct.

brown yellow * AGA'RCUS *ſquamo'ſus.* (Schæff.)—Gills yellowiſh, toothed, 4 in a ſet. Pileus brown yellow, convex but irregular, ragged with ſcales. Stem brown yellow, ſcaly. —

Schæff. 29 *and* 30.

Gills fixed, whitiſh yellow, toothed or notched at the edge.

Pileus brown or greyiſh yellow, ſcaly, convex but very irregular in ſhape, ſometimes hollow in the center, 3 inches over.

Stem

Stem solid, brown yellow, scaly, irregular in shape, 1½ to 3 inches high, ⅛ inch or more in diameter. Schæffer.—The hard scaly texture of the Pileus and stem, together with the indented Gills, well characterised in Schæffer's figures. Major Velley.

Ag. squamosus. Huds. 614. 17.

Old trees in Ditchingham. Relhan. Fl. Cantab.—On decayed trees, particularly on old willows. Aug.—Nov.

*AGA'RICUS *perona'tus*. (Bolt.) — Gills pale watery straw colour, 4 in a set. Pileus brown, hemispherical, semi-pellucid. Stem, its lower half cloathed with yellow wool.— *spatter dashed*

Bolt. 58.

Gills fixed, few, thin, narrow, pellucid, 4 in a set.

Pileus like a mixture of brown and white wool, thin, without flesh.

Stem solid, firm, tough, pale straw colour, upper part cylindrical, smooth, lower half surrounded with a cottony or woolly substance of a bright yellow colour; 3 inches high, thick as a raven quill. Bolton.

A rare species. In the deep and moist parts of woods near Halifax. Bolt.—[In the Abbey Wood, at Flixton, Suffolk, and Earsham wood, Norfolk. Mr. Woodward.]

* Var. 1. Gills pale browniſh yellow. Pileus and stem pale yellow.

Schæff. 77.

Gills numerous, narrow.

Pileus whitish, flat, thin, edge turned down, 1 or 1½ inch over.

Stem solid, cylindrical, whitish yellow, near 2 inches high, thick as a raven's quill. Smells like hawthorn. Description and drawing from Mr. Stackhouse.

Woods near Bath.

* Var. 2. Gills pale whitish yellow. Pileus yellowish white, flat. Stem tapering upwards, rust-coloured and woolly below.

Bull. 158 *and* 524. 1.

Gills unequal.

Pileus flat, 1 inch over, often depressed in the middle and waved at the edge.

Stem solid, 3 or 4 inches high, thick as a duck's quill, and covered with rust coloured wool below, tapering and thinner upwards. It has a strong smell of garlic. Mr. Stackhouse.

Woods near Bath. Bagley Wood, Oxfordshire, in company with Major Velley and the Hon. Mr. Wenman. Mr. Stackhouse.

rigid * AGARICUS *oedemato'pus.* (SCHÆFF.)—Gills pale browniſh yellow, few, fleſhy, in pairs. Pileus reddiſh brown, conical, edge turned in. Stem dirty brown, thickeſt in the middle.—

Bolt. 43.—*Schæff.* 259; *colours richer.*—(*Not Bull.* 76; *nor Batſch.* 15.—*Fl. dan.* 833. 1, *is Ag. aurantius.*)

GILLS fixed, pale yellow, narrow, brittle, crumpled.

PILEUS duſky reddiſh brown, conical, edge turned in, crumpled, waved, ſplitting, 2 inches from the edge to the top of the cone. *Fleſh* thick, dry, white.

STEM ſolid, brown grey, hard, dry, brittle, thickeſt in the middle, 5 or 6 inches high, and 1 inch or more in diameter in the thickeſt part. BOLTON.

Ag. rigidus. BOLT.

Plantations and wood grounds about Fixby Hall. July, Aug.

imperial AGA'RICUS *cæſa'reus.* (SCHÆFF.) — Gills golden yellow, 4 in a ſet. Pileus fine lake red, to rich orange buff, convex, boſſed. Stem buff and roſe, tapering upwards.—

Schæff. 247.—*Battar.* 4. *C. juſt broke forth from its wrapper.*—*Mich.* 77. 1.—*Cluſ. hiſt.* 272. 273.

GILLS fixed, bright golden yellow, juſt under the edge of the pileus nearly orange, very regularly diſpoſed 4 in a ſet; none of them branched; fleſhy, brittle, ſerrated at the edge with a paler cottony matter.

PILEUS fine lake red, changing with age to a rich orange and buff, and every intermediate ſhade of theſe colours which render it ſtrikingly beautiful; convex, center boſſed, edge turned down, 3 to 4 inches diameter, clothy to the touch. *Fleſh* pale buff.

STEM ſolid, nearly cylindrical, but gradually tapering upwards, rich buff, ſhaded with fine roſe red; 3 to 5 inches high, ½ inch diameter. *Fleſh* pale buffy, ſpongy, elaſtic.

Juice milky, not at all acrid, very plentiful. The moſt ſplendid of all the Agarics. It is common in Italy, and is brought to the markets for ſale. The ancient Romans eſteemed it one of the greateſt luxuries of the table. It having been made the vehicle for poiſon to Claudius Cæſar, by his wife Agrippina, it has been celebrated by the ſatiric pen of Juvenal, and the epigrammatic muſe of Martial. See Schæffer, p. 65, chiefly taken from Cluſ. hiſt. 273, where the reader will find ſeveral other curious circumſtances reſpecting it.

This plant muſt be very rare in this country, as it is unnoticed by any of our botaniſts. It was firſt found by my daughter in the Red Rock plan-

plantation at Edgbaſton, ſeveral growing together of different ages and ſizes, in a dry ſoil, where either a larch or a fir tree had been cut down 4 years before. A few days afterwards we found it again in company with Mr. Stackhouſe, but none of our ſpecimens were found with either curtain or ring. The ſpecimens firſt gathered afforded a milky juice in greater abundance than I had ever ſeen in any other ſpecies, but theſe the next day ſhewed no ſigns of milk, neither were thoſe gathered a few days afterwards on the ſame ſpot, at all lacteſcent. This firſt taught me that the circumſtance could not be relied on as a ſpecific diſtinction. It is deſcribed and figured by Cluſius as being involved in a wrapper or volva, when young and about the ſize and ſhape of an egg. The curtain, and its remains on the ſtem in form of a broad permanent ring, are alſo noticed by the authors referred to above, ſo that notwithſtanding the defect of theſe parts in our ſpecimens, there can be no doubt of their exiſtence in others.

Red Rock plantation, Edgbaſton. 6th July, 1791. Fir plantations Tettenhall, Staffordſhire, amongſt moſs. July, 1792.

* AGA'RICUS *xerampeli'nus.* (Scop.)—Gills golden yellow, 2 or 4 in a ſet. Pileus convex, clothy, purple to brown yellow. Stem cylindrical, thick, brown yellow or pinky brown.— *purple*

* Var. 1. Pileus rich dark reddiſh brown; Stem brown red. Mr. Stackhouse.

* Var. 2. Pileus and ſtem golden brown. Mr. Stackhouse.

* Var. 3. Pileus rich red purple. Stem duſky gold colour. *Bolt.* 14.

* Var. 4. Pileus rich red brown, ſtem pinky.

Schæff. 214. 215, *a proliferous variation.—Schæff.* 219, *and* 254, *are other varieties of this ſpecies, but I have no evidence that they have been found in this iſland.*

Gills fixed, not crowded, ſtrong, fleſhy, brittle, ſerrated on the edge with a browniſh colour.

Pileus globular, bloomy purple, clothy to the touch, 3 inches diameter. *Fleſh* thick, brittle, white.

Stem ſolid, but ſpongy, 3 inches long, 1 inch diameter, duſky gold colour, brittle, pale yellow within. Bolton.—*Gills* bright yellow, turning brown in decay, fleſhy. They have, when diſcharging their ſeeds, rather a fringed than a ſerrated appearance. *Pileus* of the rich reddiſh brown colour ſo commonly ſeen in vine leaves in the autumn, its name therefore admirably expreſſive. It is one of the moſt elegant of the Agarics when in perfection. Mr. Woodward.—*Gills* always of a bright

gold colour. *Pileus* of various tints, from reddiſh purple to rich browniſh yellow; flat, often depreſſed in the center, edge turned down; clothy. *Stem* thick, large, clothy to the feel, purple. Often found in cluſters. Mr. STACKHOUSE, who diſcovered and ſent me three beautiful drawings of it, prior to its appearance in any Engliſh publication. *Pileus* from 2 to 5 inches over, deep ſaffron colour blended with purple tints, but often of a red brown and purpliſh. *Gills* conſtantly yellow, rather broad and full. *Stem* thick, from 1 to 4 inches long. Major VELLEY.—I apprehend that this will prove to be only a variety of the preceding ſpecies. The want of milky juice, the ſmall difference in the colour of the fructifications ſerrating the edges of the Gills, the white fleſh, the deviations in the ſhape and ſize of the ſtem, and the variations of the tints of the ſtem and pileus, are hardly ſufficient, in my opinion, to conſtitute a ſpecific difference.

[Fir plantations near Bath; Fir woods at Clowance, Cornwall. Mr. STACKHOUSE.—Major VELLEY.—Pine grove, Ditchingham. Mr. WOODWARD.] Aug.

§ III. SOLID and LOOSE.

* GILLS white.

bulbous AGA'RICUS *bulbo'ſus*. (SCHÆFF.)—Gills white, irregular. Pileus convex, white. Stem cylindrical, white.—

Bull. 364.—*Schaff.* 241.—*Bolt.* 48.—*Battar.* 6. *A.*

GILLS looſe, white, or watery white, very numerous, irregular, but moſtly in pairs, the ſhort ones very unequal in length, and ſometimes not preſent.

PILEUS white, at firſt nearly ſemi-globular, cracking acroſs as it expands further, ſometimes fringed at the edge with the remains of the curtain, ſmooth, 4 or 5 inches over. *Fleſh* white, ſpongy, very thick.

STEM ſolid, irregularly hollow with age, white, cylindrical, ſmooth, rarely quite ſtraight, 4 inches high, ½ inch or more in diameter. *Ring* permanent, broad, white.

This is one of thoſe Agarics which poſſeſſes all the parts belonging to the Genus, and being on a large ſcale, is well fitted for inſtructing the learner to underſtand them. In its embryo ſtate it is incloſed in a wrapper, and is equal in ſize to a large pullet's egg. If this be cut through vertically, the ſection brings to view the Gills, the pileus, the ſtem as yet imperfectly formed, and the curtain extending from the ſtem to the edge of the pileus, the remnants of

which

which in a more advanced state of growth, are sometimes observable fringing the edge of the pileus, and always forming a broad ring round the upper part of the stem. A good drawing of it in its egg-state may be seen in Bulliard, pl. 364. A.

It is subject to several other trifling variations:

1.—Center bossed, surface very viscid, changing to pale ash-colour. This happens principally in the autumn.

2.—Proliferous; another smaller one of the same growing on the pileus of a larger plant. This I have seen happen when growing in the rank soil of a hot bed in the middle of summer.

It may be found from spring to the end of autumn in rich soil. Not unfrequent in gardens, particularly on the sides and the base of hot beds. I have seen it on a mushroom bed with the Ag. campestris.

* VAR. 1. Pileus dusky mouse, set with warts of rather a paler colour.

Bull. Ag. solitarius.—Bolt. 47.

Gills 4 in a set, but irregular. *Stem* 4 or 5 inches high; the curtain remaining on it. BOLT.

Ag. verrucosus, BOLT, but none of his synonyms.

In woods about the roots of trees, but rare. In the Shroggs opposite Birks Hall. BOLT.

* VAR. 2. Pileus scarlet, with white blotches, the fragments of the inner wrapper.

Bolt. 46.

Gills loose, 4 in a set. *Pileus* convex, smooth. *Flesh* thick, white, brittle. *Stem* firm, solid, brittle, cylindrical, white. *Curtain* white, forming a permanent ring. BOLTON.

Ag. nobilis. BOLT.

In a plantation at Mill's Bridge, near Huddersfield.

* AGA'RICUS *confer'tus*, (BOLT.)—Gills browniſh white, thin, uniform. Pileus white, conical, cottony. Stem white, tapering upwards.— *stove*

Bolt. 18.—*(Not Bull. Ag. digitaliformis, for that has a hollow stem.)*

GILLS loose, uniform, numerous, thin and delicate, white, with a faint tinge of pale brown.

PILEUS conical, pointed, white, yellowish brown at the apex, smooth, light, cottony; withers in decay, from ½ to 1 inch in diameter at bottom, and as much in height.

STEM solid, white, gently tapering upwards, 2 inches high, thick as a swallow's quill. *Curtain* white, very evanescent. BOLTON.

Amongst bark in hot houses. Nov. 1785.

white * AGA'RICUS *al'bus*. (Bolt.)—Gills white, numerous, 4 in a ſet. Pileus white, bluntly conical, brown at the top. Stem white, tapering upwards.—

Bolt. 153.—*(Schæff.* 256, *is a variety with Gills in pairs and Pileus flat at the top.)*

Gills looſe, thin, pliable.

Pileus ſmooth like vellum, milk white, 1½ inch to the apex of the cone. *Fleſh* white, thin.

Stem ſolid, pure white within and without, largeſt at the bottom, decreaſing gradually upwards, ſplits into fibres; 5 inches high, ½ inch diameter at the bottom, ¼ at the top. Bolton.

Sheep croft at Stannary near Halifax, and elſewhere in ſheep paſtures. Aug.

* Var. 1. Gills few. Pileus wholly white.

Bull. 256.—*Bolt.* 155.

Gills looſe, white, ſoft, few, 4 in a ſet.

Pileus convex, or rather bluntly conical, white, thin, ½ to 1 inch over.

Stem ſolid, white, thick as a crow quill, but much thicker downwards where it is ſometimes tinged with red; 1½ to 2½ inches high. Bolton.

Ag. alumnus. Bolt.

On old plants of Ag. integer and other ſpecies of Fungi, but rare.

reſplendent AGA'RICUS *ſplen'dens*. Gills pure white, numerous, 2 or 4 in a ſet. Pileus like tarniſhed copper, gloſſy, bluntly conical. Stem browniſh white, tapering upwards.

Gills looſe, very white, very numerous, thin, and tender, throwing out an abundance of duſt-coloured ſeeds from the edges, and then changing to a pinky white.

Pileus colour of tarniſhed copper, with a metallic luſtre, beautifully gloſſy, ſcarcely viſcid, apparently ſtreaked, or fibrous like ſmoothly combed hair, ſmooth to the touch, bluntly conical, edge parallel to the ſtem, from 3 to 7 inches over. *Fleſh* very white, tender and ſpongy, cracking when fully expanded.

Stem ſolid, white, with longitudinal pale brown riſing lines, regularly tapering upwards, 4 to 6 inches high, near an inch diameter at bottom and half as much at top. *Fleſh* tender, juicy, ſpongy.

This muſt be a very rare ſpecies, as its ſize and the metallic ſplendour of its Pileus cannot fail to attract the eye, and yet there does not appear to be any figure of it.

On a rotten Alder ſtump by the ſide of the pool in Edgbaſton Park, 26th July, 1792.

* AGA'-

*AGA'RICUS *radica'tus*. (RELH.)—Gills white, few, 4 in a set. Pileus browniſh, bluntly conical. Stem brown, tapering upwards. Root very long.— *long-rooted*

Bull. 232 *and* 515.

GILLS looſe, white, few, diſtant, 4 in a ſet.

PILEUS browniſh or dirty white, rather bell-ſhaped, not fleſhy, almoſt pellucid, edge rather bent in, but with age turning up, 3 to 4 inches over, or more.

STEM ſolid, rather woody, 4 to 6 inches high, thick as a gooſe quill, gradually thickening from the Pileus down to the ground, then penetrating the earth in form of a long root tapering downwards. RELHAN n. 1040.—*Stem* covered with a thick down, of a reddiſh brown colour; 5 or 6 inches high, gradually increaſing in thickneſs to the ground, and then tapering to a ſpindle-ſhaped root which penetrates deep into the earth. I raiſed it to more than the length of the ſtem above ground without obtaining the whole root. *Pileus* about 4 inches over, pale brown or dirty white, almoſt tranſparent, being abſolutely without fleſh; the edge rather bent in. *Gills* few, white, broad, 4 in a ſet, none of them reaching the ſtem. Upon comparing the deſcription of Mr. Relhan with the above, which was drawn up ſome time before the publication of his ſupplement, it cannot be doubted but the plants are the ſame. Bulliard's plate 232 agrees, except that the Pileus is deſcribed as downy, and the ſtem is longitudinally ſtriated; but as from its woody ſubſtance it ſhrinks and ſomewhat twiſts in drying, this appearance in the figure may be occaſioned by that circumſtance. Mr. WOODWARD.

Solitary; in the margins of cornfields, at Mettingham, and Homersfield, Suffolk; on a ſtrong clayey ſoil. Mr. WOODW.—Alſo a good drawing and deſcription ſent me by Mr. Stackhouſe, but without a place of growth.

* VAR. 1. Stem not 2 inches high, ſwelling out to the ſize of a finger. Root 14 inches long, and large in proportion. RELHAN. ſuppl. ii. p. 25.

Paſtures and plantations. Sept.

AGA'RICUS *or'cades*. (BOLT.)—Gills browniſh watery white, 2 or 4 in a ſet. Pileus pale brown, convex, irregular. Stem whitiſh, browner with age, very tough, rarely central,— *fairy-ring*

Bull. 144; *but the plate has too much appearance of a finiſhed ſmoothneſs, and is too highly and too uniformly coloured. There is no characteriſtic drawing extant.—Battar.* 21. *E. gives a good idea of it in its more advanced ſtate; but I know it to be really a very different plant, and as ſuch, ſhall refer to it in its proper place.*

GILLS

Gills looſe, (but the part attached to the pileus juts up very cloſe to the ſtem, ſo as to give them almoſt the appearance of being fixed) watery browniſh white, 2 or 4 in a ſet, the ſmall ones often very minute, and the large ones ſometimes ſplitting at the outer end; not numerous, rather broad for the ſize of the plant; frequently connected to the pileus by ligaments.

Pileus pale buffy brown, convex, irregular, a ſudden depreſſion of the border, at ſome diſtance from the center, often giving the appearance of a large rounded boſs in the middle; central colour generally deeper, 1 inch to 1¼ over; edge turning up with age.

Stem ſolid, white, changing to watery brown, cylindrical, but thicker and flattened juſt under the pileus, very tough, moſtly crooked, twiſted when dry, rarely central, 1½ inch high, thick as a crow quill.

Ray *Syn.* 6. 27.—Ag. pratenſis. 25. Huds.—Ag. coriaceus. 12. Lightfoot.—But neither of theſe names could be preſerved, having been, and not improperly, previouſly applied to other ſpecies.

Edgbaſton, hedge banks, paſtures, in ſmall or large patches, particularly in fairy rings.—Abounds in upland paſtures, and ſheep commons. Mr. Stackhouse. Sept. Oct.

Var. 1. Gills cream-colour. Pileus buff. Stem mealy.

Paſtures, Edgbaſton. 20th May, 1792.

Sometimes the pileus is as much as 3 inches in diameter.

In fairy rings on the ground ſloping down to Hockley pool, and on a piece of graſs land ſloping to the South in the pleaſure ground of Mr. Boulton, at Soho. 2d June, 1792.

* Var. 2. Pileus yellow brown, more fleſhy, more regularly convex. Mr. Woodward.

Bolt. 151.

Mr. Woodward obſerves that this variety is found in groves; that the ſtem retains its uſual colour and toughneſs. He ſays alſo that this ſpecies has a much higher flavour than the common muſhroom, but probably from its leathery nature is indigeſtible, except in the form of powder, in which it is admirable. I have ſeen the pileus and gills of this Agaric very brittle and tender when fully ſaturated with moiſture in rainy ſeaſons, and in that ſtate it is ſufficiently digeſtible. It is not, as Mr. Lightfoot has ſuppoſed, the *Mouceron* of the French, though often uſed in France inſtead of that. Mr. Bulliard informs us that it is uſed in ragouts, that its flavour is equal to that of the true Mouceron, but that it is more tough.

I am ſatisfied that the bare and brown, or highly cloathed and verdant circles, in paſture fields, called *Fairy Rings*, are cauſed by the growth of this Agaric. We have many of them in Edgbaſton Park, on the ſide of a field ſloping to the South Weſt, of various ſizes;

ſizes; but the largeſt, which is 18 feet diameter, and about as many inches broad in the periphery where the Agarics grow, has exiſted for ſome years on the ſlope of an adjoining paſture field, facing the South. The ſoil is thin, on a gravelly bottom. The larger circles are ſeldom compleat. The large one juſt now deſcribed is more than a ſemi-circle, but this phænomenon is not ſtrictly limited to a circular figure. Where the ring is brown and almoſt bare, upon digging up the ſoil to the depth of about 2 inches, the ſpawn of the Fungus will be found, of a greyiſh white colour, but where the graſs has again grown green and rank, I never found any of the ſpawn exiſting. A ſimilar mode of growth takes place in ſome of the cruſtaceous Lichens, particularly in the L. *centrifugus*.

As this Agaric may be procured plentifully, and as its fine flavour will probably ſoon introduce it to our tables, particularly in catchups and in powder, forms in which its toughneſs is no objection to its uſe; I imagine it may be of ſome conſequence to guard againſt errors in thoſe who gather it, or in thoſe who direct it gathered; and as much confuſion and many miſtakes have hitherto exiſted amongſt authors on the ſubject of this very common plant, I ſhall now, in addition to the particular deſcription given of it above, ſubjoin a liſt of the figures erroneouſly quoted as repreſenting it, pointing out wherein they differ from it.

Ag. *mouceron*. Bull. 142. This is very unlike our plant, it has a very thick and fleſhy pileus, its Gills are extremely narrow and numerous, and its ſtem is thick and ſhort. Not to mention that the Gills too are fixed to the ſtem.

Ag. *leucocephalus*. Bull. 428. 1. This is a much larger plant, has a fixed Gill, a much thicker, and a brittle ſtem, but the toughneſs of the ſtem in our plant is ſuch as is nearly alone ſufficient to diſtinguiſh it.

Battar. 22. C. Not to mention other marks of difference, this has a *hollow* ſtem.

Ag. *melleus*. Schæff. 45. This has a fixed Gill, and a hollow ſtem.

Ag. *pallidus*. Schæff. 50. This is indeed very unlike our plant; it has a thick fleſhy pileus, a thick ſtem, and decurrent Gills.

Ag. *farinulentus*. Schæff. 205. This has a hollow ſtem, a powdered pileus, and a dirty brown gill.

Ag. *collinus*. Schæff. 220. This has a hollow ſtem, otherwiſe it is not much unlike it; but the ſtem is too thick for our plant, and the boſs upon the pileus is very peculiar.

Ag. *niveus*. Schæff. 232. Differs very widely indeed, having a pileus concave in the center, a hollow ſtem, and a very decurrent Gill.

Ag. *præaltus*. Fl. dan. 830. 1. This figure has ſome general reſemblance, and the decurrent Gills may be only apparently ſo from the

the turning up of the pileus in the advanced age of the plant. The author however refers to Battar. p. 46. t. 21. fig. F. and here we find that this is a very large ſpecies indeed, well agreeing with the trivial name *prælatus*, but the figure gives no ſuch idea.

I have referred to Ray *Syn.* p. 6. n. 27, for our plant, but a very reſpectable authority has lately given this ſpecies of Ray to the Ag. *ſordidus*. I confeſs that the ſhort character given by Mr. Ray is ſo imperfect as to admit of various applications, though his uſual ſagacity did not deſert him when he mentions its leathery texture. But this alone would not have been ſufficient. Fortunately he ſubjoins an Engliſh name, *Scotch bonnets*, from which, thoſe who are intimately acquainted with the habit of the fairy-ring Agaric, will immediately acknowledge it.

cuſhion * AGA'RICUS *pulvina'tus*. (BOLT.)—Gills greyiſh white, 4 in a ſet. Pileus convex, brown mouſe. Stem dark grey, tapering upwards. Wrapper permanent.—

Bolt. 49; *(but none of his ſynonyms.)*

GILLS looſe, the 2 ſmaller ſeries lopped.

PILEUS when fully expanded flatted at the top like a cuſhion; edge ſtrongly ſcored; 3 or 4 inches over. *Fleſh* white, ſpongy.

STEM ſolid, dark grey, nearly cylindrical but thicker at the bottom, which is incloſed in a permanent wrapper; 3 to 4 inches high, near ½ inch diameter. BOLTON.—The colour of the Gills not mentioned in the deſcription, but if grey white as repreſented in the figure, it cannot be the ſame plant as Mr. Bulliard's Ag. volvaceus, pl. 262, which has white Gills when young, changing to ſalmon colour when in maturity.

Woods and moiſt ſhady places about Halifax, but rare. Sept.

horizontal * AGA'RICUS *horizonta'lis*. (BULL.) — Gills yellowiſh white, 4 in a ſet. Pileus yellowiſh brown, convex, not fully circular. Stem bent horizontally.—

Bull. 324.

GILLS looſe, contiguous to the ſtem but not fixed to it, yellowiſh white, few, rounded at the edge, 4 in a ſet, the ſmaller ſeries very minute.

PILEUS convex, yellowiſh brown, almoſt ſemi-orbicular, ſmooth, ſhining, 1 inch broad.

STEM ſolid, little more than ½ inch long, central, but immediately bent ſo as to be parallel to the Pileus, and inſerted into the crevices of the bark on which it grows; in thickneſs equal to a ſwallow's quill. I have frequently been deceived in gathering this plant, the ſtem

from

from its mode of growth, not being eaſily ſeen, I have ſuppoſed it to be a dimidiated Agaric until it was pulled. Mr. Woodw.

On old trees at Mettingham, and elſewhere, near Bungay. Mr. Woodward.

AGA'RICUS *cla'vus.* (Linn.)—Gills white, in pairs. Pileus with a dimple in the center, pale orange. Stem ſolid, pale orange.— *nail-headed*

Shæff. 59. *very good, but rather larger than my ſpecimens.—Bull.* 148. *B. C. D.—A. is another ſpecies.—Vaill.* xi. 19. 19. 20.—*Bolt.* 39. *B.*

Gills looſe, in pairs, white, about 20 of each ſort.

Pileus pale orange, convex, with a dimple in the center, from 1-10th to 3-10ths of an inch over.

Stem ſolid, pale orange, ſemi-tranſparent, from ¾ to 1 inch high, not thicker than a pin.

This is a Linnæan ſpecies, but I omit the character in the Fl. Suec. as it is evident that the author had confounded two different plants together. In the Sp. pl. ed. 3. the erroneous part of the reference to *Vail. Par.* is thrown out, but the whole of the error is not yet removed.

Ray *Syn.* 9. 44, has been ſuppoſed to be this plant, but the conical pileus does not juſtify that opinion.

Common amongſt moſs and old leaves. July.

AGA'RICUS *avella'neus.* Gills white, numerous, irregular. Pileus rich reddiſh yellow, gently convex. Stem brown yellow.— *hazel-nut*

Gills looſe, white, with ſomething of a yellowiſh caſt; thin, numerous, 3 or 4 in a ſet, and often ſeveral long ones together.

Pileus the colour of a freſh gathered ripe hazel nut; gently convex, rather boſſed, thin at the edge, 2½ inches over. *Fleſh* whitiſh, with a tinge of the nut colour.

Stem ſolid, gently tapering upwards, brown yellow, flecked with a ſcurf of a redder colour; 4 inches high, near ½ inch diameter.

This ſpecies I believe was firſt found in England about 3 years ago, by Mr. Knapp, who then ſent me an account of it, obſerving that it gave a greaſy appearance to the paper in which he had preſerved it. On making further enquiries concerning it, he favoured me in March laſt with a drawing made from his dried ſpecimen, and alſo the following obſervations—*Gills* white. *Pileus* nearly flat, of a nut colour, with an extremely fine woollineſs. *Stem* tawny, rather ſcored, not hollow. Mr. Knapp.—I imagine it is a rare plant, as Mr. Knapp has not found it ſince, though its ſize and the length of its ſtem, as well as the elegance of its appearance, render it ſufficiently

ently obſervable. A ſingle ſpecimen was gathered in this neighbourhood, and brought to me this morning.

[Shenley, Bucks. Mr. KNAPP.]—On the Weſt ſide of Moſeley Common, near Birmingham. 6th July, 1792.

St. George's * AGA'RICUS *Geor'gii.* (LINN.)—Gills yellowiſh white. Pileus yellow, convex, hollow in the center. Stem yellow, thickiſh, ſmooth. Juice yellow.—

Ag. ſtipitatus, pileo flavo convexo, lamellis albis. *Fl. ſuec.*

Cluſ. ii. 264. 2, *cop. in J. B.* iii. 824. 2, *the upper figure copied in Park.* 1317. 4.—*Sterb.* 4. C. *(not* 11. 3.*)*

Gills looſe. *Pileus* brimſtone coloured, 4 inches over. *Stem* ſolid, irregularly hollow with age. LINN. CLUS. HALLER.—*Pileus* ſtriated and hairy at the edge, white, changing to yellowiſh, and reddiſh yellow when old; but the Gills do not loſe their whiteneſs. *Stem* ſhort, thick, woolly. GLEDITSCH.— Juice yellow. HUDSON.—If wounded bleeds plentifully with a yellow juice.

This ſpecies is introduced on the authority of Mr. Hudſon and Mr. Relhan. I cannot collect the exact deſcription of the Gills from any of the authors who have mentioned it, but from the general ſtructure of the plant it is probable that they are looſe.

Woods and paſtures. Sept.

* VAR. 1.

Mr. Stackhouſe had repeatedly mentioned to me a large eſculent Agaric found on the ſea-coaſt in Cornwall, which is, I believe, a monſtrous variety of this ſpecies. Its whole habit is very large, the button as big as a potatoe, the expanded pileus 18 inches over, the ſtem as thick as a man's wriſt, the Gills very pale; the *Curtain* as tough and as thick as a piece of leather, the juice yellowiſh; the flavour inferior to that of the Ag. *campeſtris.* And he has very lately informed me that it correſponds with the deſcription of J. B. hiſt. iii. p. 824, cited by Linnæus under Ag. *Georgii.* It was probably a plant of this kind, which was mentioned to me by a gentleman of undoubted veracity, as having been gathered ſome years ago on an old hot-bed in a garden in Birmingham, and weighed 14 pounds.

On the ſea coaſt or commons, Weymouth, Devonſhire, and Weſt of Cornwall. Mr. STACKHOUSE.

** GILLS brown.

bay * AGA'RICUS *ba'dius.* (SCHÆFF.) — Gills pale brown, uniform. Pileus orange brown, rather boſſed. Stem pale cinnamon, with a permanent wrapper at the root.—

Schæff.

Schæff. 245.—*Bolt.* 38. 2.—*(Mr. Bolton refers to Schæff.* 95, *which poſſibly may be the ſame, and alſo to Schæff.* 211, *which muſt be a miſtake.)*

GILLS looſe, uniform, broad, diſtant, pale cinnamon brown.

PILEUS bright brown inclining to orange, ſmooth, ſtreaked near the edge, 3 inches over.

STEM ſolid, hollow with age, pale cinnamon, ſmooth, tapering upwards, 4 inches high, ¼ inch diameter, ſurrounded at its baſe by a permanent wrapper which ſplits into 3 lobes. BOLTON.

Ag. trilobus. BOLTON.

Dry woods about Halifax. Aug.

* AGA'RICUS *palma'tus.* (BULL.)—Gills red brown, 4 in a ſet, but irregular. Pileus deeper brown red, flat, oblong. Stem reddiſh white, eccentric.— *eccentric*

Bull. 216.

GILLS, long ones terminating on a membrane which prevents their adherence to the ſtem; few in number, very irregular. BULLIARD.—Unequal, lighter coloured than the pileus.

PILEUS brown red, flat, membranaceous, edge turned down.

STEM ſolid, ſtrong, inſerted near the edge of the pileus. Subſtance very leathery and tenacious. The place of growth is very particular, viz. on the perpendicular ſide of a poſt, out of a knot in the ſolid undecayed wood, pointing firſt horizontally and then turning upwards. Deſcription and drawing from Mr. STACKHOUSE.—M. Bulliard ſays it is found in autumn on the ſquared ſides of timber, and alſo on trees both healthy and decayed, at the height of 60 or 80 feet.—In Mr. Stackhouſe's drawings the pileus is about 1½ or 2 inches over; the ſtem about 1 inch high, and ¼ diameter, but the figures of M. Bulliard are much larger, and more of a brown colour.

*** GILLS red.

* AGA'RICUS *ru'bens.* (BOLT.)—Gills ruby red, 4 in a ſet. Pileus dark red, gently conical. Stem bright red.— *ruby*

Bull. 202.—*Bolt.* 36.—*Fl. dan.* 715.

GILLS looſe, thin, tranſparent; when held between the eye and the light, of a glowing ruby colour, regularly 4 in a ſet.

PILEUS gently conical, fine dark red, cottony to the touch, 1½ inch over.

STEM ſolid, ſtrong bright red, hard, ſeldom ſtraight, 4 or 5 inches high, thick as a gooſe quill. BOLTON.

Ag.

Ag. coccineus. Bulliard, but not Schæffer 302. M. Bulliard's name is rejected becauſe previouſly appropriated by Scopoli to another ſpecies. Indeed the ſame reaſon exiſts againſt Mr. Bolton's name, but that the ſpecies which Scopoli has called *rubens* is a variety of Ag. muſcarius.

In a wood belonging to Shibden Hall, near Halifax, and not elſewhere. Oct.

orange AGA'RICUS *aurantius*. Gills looſe, pinky fleſh colour, 4 in a ſet. Pileus pale pink. Stem pinky white.—

Ag. aurantius. VAR. 3. See HOLLOW and FIXED.

Muſhroom AGA'RICUS *campeſtris*. (LINN.) —Gills pinky, changing to liver colour, crowded, irregular. Pileus convex, white to brown. Stem white, cylindrical. Curtain white.—

VAR. 1. Pileus ſmooth, or only a little ſcaly when old.

Bull. 514.—*Bull.* 134.—*Fl. dan.* 714.—*Bolt.* 45.—*Mill. ill. t.* 106. —*Lob. ic.* 271.—*J. B. hiſt.* 3. 824.—*Garſ.* 279. 1.—*Sterb.* 1. —*Schæff.* 310, 311.

GILLS looſe, pinky red, changing to liver colour, in contact but not united with the ſtem; very thick ſet, irregular in diſpoſition, ſome forked next the ſtem, ſome next the edge of the pileus, ſome at both ends, and generally in that caſe excluding the intermediate ſmaller Gills.

PILEUS white, changing to brown when old, and becoming ſcurfy; regularly convex, fleſhy, flatter with age, 2 to 4 inches diameter, liquefying in decay. *Fleſh* white.

STEM ſolid, white, cylindrical, 2 to 3 inches high, ½ inch diameter. *Curtain* white, delicate.

Such are the more common kind, in this part of England, which are ſo much in requeſt for the table. They differ very much in ſize; I gathered one whoſe pileus meaſured 9 inches over. The field plants are better for eating than thoſe raiſed on artificial beds, the fleſh of the latter being far leſs tender.

Ag. ſtipitatus, pileo convexo ſquamato albido, lamellis rufis. Fl. Suec. 1203.—Ray *Syn.* p. 2. n. 1.

In parks, and other paſtures where the turf has not been ploughed up for many years. Aug. Sept.

VAR. 2. Pileus rough and ſcurfy, or hairy.

Schæff. 33.—*Battar.* 7. *A.*—*Mich.* 75. 1.—*Cluſ.* 268.

This ſeems the more common ſort in ſome parts of Europe.

VAR.

VAR. 3. Pileus beautifully tufted with pencils of brown hair. Stem tapering downwards.

Schæff. 33. *f.* 5. 6,

Gives a good idea of this, which with us never expands further; conſequently the curtain is very durable.

Woolhope, Herefordſhire. Sept. from Mr. STACKHOUSE.—Rookery, Edgbaſton, a ſingle plant. Oct.

AGA'RICUS *la'tus.* (BOLT.) — Gills pale fleſh-colour, 8 in a ſet, but irregular. Pileus brown mouſe, convex, rather boſſed. Stem white, cylindrical.— *broad*

Bull. 382, *Gills too highly coloured.—Bolt.* 2, *but the colouring in my copy neither agreeing with our ſpecimens, nor yet with his own deſcription, which is ſufficiently exact.*

GILLS looſe, white when young, changing to a pale fleſh colour, numerous, moſtly 8 in a ſet, but the ſmaller ſeries often abſent, and often ſtanding nearer to the edge of the pileus, than the extent of the large ones.

PILEUS brown mouſe colour, convex, fleſhy, a little boſſed, ſattiny, ſmooth when young, when fully expanded much wrinkled about the boſs, 2 to 5 inches over.

STEM ſolid, white, cylindrical, rather ſcurfy towards the bottom, ſpongy and juicy, 2 to 3 inches high, 3-8ths diameter.

Edgbaſton, on turf. Solitary. July—Sept.

**** GILLS buff.

* AGA'RICUS *hinnu'leus.* Gills buff, very broad, 4 in a ſet. Pileus fawn-coloured, convex, mealy. Stem cheſnut.— *fawn coloured*

GILLS looſe, buff, very broad, 4 in a ſet.

PILEUS bright fawn-colour, ſurface covered with a fine farinaceous ſubſtance, which appears under the microſcope as mealy tubercles; 1 to 2 inches over.

STEM ſolid, ſpongy, dark cheſnut colour, ſtriated when old, 1 to 3 inches high, thick as a ſwan's quill. *Curtain*, its fragments attached to the edge of the pileus and to the ſtem.

This is an elegant ſpecies; the colour of the pileus has furniſhed its name, although ſtrictly ſpeaking, it is too bright to be called a fawn colour. Major VELLEY.

Pine plantations on Claverton. Major VELLEY.

***** GILLS

***** Gills yellow.

grooved AGA'RICUS *ſulca'tus*. Gills yellow, 4 in a ſet, larger ones grooved along the edge. Pileus orange, convex, but depreſſed in the middle. Stem ſolid, yellow, rich brown below.—

Bolt. 135.—*Bull.* 519. 2.

Gills looſe, yellow, moderately numerous, in contact with the ſtem but not attached to it, 4 in a ſet, the larger Gills thick, and grooved along the edge.

Pileus orange in the middle, yellow towards the edge, convex but depreſſed, ¼ of an inch to 3½ inches over. *Fleſh* white.

Stem ſolid, cylindrical, yellow, velvety, paler upwards, dark rich brown below, 1½ to 2 inches high, 1-8th to 3-8ths diameter.

In cluſters affixed to rotten wood. Edgbaſton. 15th Nov. 1790.

cotton-tufted * AGA'RICUS *lu'teus*. (Bolt.) — Gills yellow, numerous, uniform. Pileus yellow, conical, tufted. Stem tapering upwards.—

Bolt. 50.

Gills looſe, thin, tender, delicate.

Pileus a blunt cone, bearing the remains of its wrapper on its ſurface, in form of little, ſoft, cottony tufts; edge waved, ſcolloped, ſcored when old; 1½ inch from the edge to the top.

Stem ſolid, yellow, tapering upwards, 2½ inches high, ¼ diameter at at the ring, which is permanent. Bolton.

Amongſt the bark in a pine ſtove. Aug.

minikin * AGA'RICUS *minu'tulus*. (Schæff.)—Gills yellowiſh, few, uniform. Pileus brown yellow, ſcored, nearly cylindrical. Stem white.—

Schæff. 308.

Gills looſe.

Pileus bell-ſhaped, 1-10th of an inch high.

Stem ſolid, white, cylindrical, rather bent, very ſlender, ½ inch high. Schæffer.

Grows in patches on the ground, but the plants grow ſingly. In that and in its general aſpect, it is extremely like the var. 1. Ag. turbinatus; and I know that plant has repeatedly been referred to Schæff. 308, but it differs in having "Gills white, in pairs; ſtem ſolid."

In paſtures, in autumn. Dickson. faſc. 1. p. 16.

AGA'-

AGA'RICUS *auran'tius*. Gills looſe, yellow, 2, 3, or 4 in a ſet. Pileus and ſtem pinky.— *orange*

Ag. aurantius. Var. 4. See HOLLOW and FIXED.

****** GILLS grey.

* AGA'RICUS *du'rus*. (BOLT.)—Gills loooſe, pale grey, very numerous, 4 in a ſet. Pileus pale duſky buff, convex. Stem pale whitiſh buff.— *hard*

Bull. 428. 2.—*Bolt.* 67. 1.

GILLS looſe, very numerous, thin, broad.

PILEUS pale duſky yellow, feels like vellum, 2 to 4 inches over.

STEM ſolid, cylindrical, 2 to 3 inches high, 2-8ths to 3-8ths diameter. *Curtain* white, evaneſcent. The ſubſtance of the whole plant very hard and brittle. BOLTON.

Sometimes ſolitary, generally in cluſters; in woods. Autumn. BULLIARD.

* AGA'RICUS *mammo'ſus*. (LINN.)—Gills yellow grey, 4 in a ſet. Pileus convex, pointed in the center, grey brown. Stem grey brown, cylindrical.— *breaſt*

Bolt. 69.—*Buxb. cent.* 4. *t.* 21. *f.* 1. 2.

Gills looſe, yellow grey, convex, ſcolloped. *Pileus* grey or browniſh, convex, pointed. *Stem* ſcored, very long, cylindrical, naked. LINN.

GILLS looſe, pale duſky grey with a tinge of fleſh colour; very broad, waved, and the long ones ſcolloped at the edge.

PILEUS duſky grey with a tinge of reddiſh brown, ſurface clothy, 3 inches over, central projection like a nipple.

STEM ſolid, grey brown, paler below, hard, firm, cylindrical, 4 or 5 inches high, ½ inch diameter. BOLT.

Ag. ſtipitatus, pileo convexo acuminato griſeo, lamellis convexis griſeis crenatis. LINN.

In woods. Sept.

* AGA'RICUS *lu'ridus*. (BOLT.)—Gills blue grey, numerous, uniform. Pileus dirty olive brown, ſlimy, bluntly conical, edge irregularly lobed. Stem dirty olive brown, bent.— *lurid*

Bolt. 25.

GILLS not touching the ſtem, ſordid greyiſh blue, uniform, very numerous, cloſe ſet, broad, deliqueſcent.

Pileus dusky greyish hue with a cast of dirty olive, quite smooth, covered with a thick slime, edge with very unequal lobes and gashes, 2½ inches across the base, and as much in height.

Stem solid, hard, dirty yellowish brown, bent in various directions, 4 inches high, ½ inch diameter. Bolton, who in a letter to me remarks, that it is slow of growth, and of much longer duration than any of the deliquescent species which had fallen under his observation.

On Gibbet Hill, and other places near Halifax.

§ IV. HOLLOW and DECURRENT.

* Gills white.

snow-white * AGA'RICUS *niv'eus*. (Schæff.)—Gills white, in pairs. Pileus white, viscid, flattish. Stem white, cylindrical.—

Schæff. 232, *not good.* *(Description at Ind. p.* 57, *very good.)*

Gills decurrent, glossy white, few, in pairs.

Pileus at first convex, afterwards flattened, and often depressed in the center; viscid, brittle, not fleshy.

Stem hollow, white, 1 to 2½ inches high, thick as a goose quill. Major Velley.—I am obliged to the gentleman just mentioned for the knowledge of this plant being indigenous, for most of the preceding characters, and for the following observations:—The Pileus is so little fleshy, that when dry, it is sufficiently transparent to exhibit the form of the Gills. The decurrence of the longer Gills, which is invariable, separates it from the Ag. coriaceus of Lightfoot, (Ag. orcades) the Gills of which, as he observes, do not touch the stem. Major Velley.

In a small clump of firs, near the middle of Claverton Down; Bath.

** Gills red.

mealy AGA'RICUS *farina'ceus*. (Huds.)—Gills dilute pink, edges scolloped, 4 in a set. Pileus, pinky brown, bossed. Stem very pale pinky brown, thick at the top.—

Schæff. 13.—*Batsch.* 100.

Gills a little decurrent, few, very dilute pink, or as if powdered with dull white upon a pink ground; scolloped at the edge, regularly 4 in a set.

Pileus pale pinky brown, deeper coloured and bossed in the center; ½ to 1 inch over.

Stem

Stem hollow, very pale brown, with a pinky tinge, ſhining, thickeſt at the top, 4 inches high, ſize of a crow quill.

This plant is always diſtinguiſhable by the ſmall number of *Gills*, which are ſprinkled with a mealy powder. *Stem* ſlender, 3 or 4 inches high. *Pileus* 1 to 2 inches over, varying in colour, but uſually more or leſs purple, often very irregular in ſhape, and occaſioning waves in the Gills. Common. Mr. Woodward.—*Gills* ſometimes ſplitting at the end, hardly to be called decurrent. Plant in its young ſtate of a light bloſſom colour, the Gills very ſlightly tinged. As it advances in maturity it acquires a much deeper tint, and aſſumes the habit of Schæffer's plant, which is that which I ſpeak of. I do not ſee the propriety of Mr. Hudſon's trivial name, ſince many ſpecies are much more evidently poſſeſſed of a mealy ſubſtance. M. Velley.

In the graſs under pine trees at Bath, in abundance. On Comb Down. Major Velley.

Var. 1. Gills in pairs. Stem thickeſt at the bottom when young.

Gills, about 20 long ones.

Pileus $\frac{1}{4}$ to $\frac{1}{2}$ of an inch over, convex, turning up with age.

Stem thickeſt downwards in the young, thickeſt upwards in the old plants, $1\frac{1}{2}$ to 2 inches high. The whole plant inſide and outſide of a pinky red.

Plantations at Tettenhall, Staffordſhire. July.

AGA'RICUS *irregula'ris*. (Bolt.)—Gills pale roſe, broad, tough, wide aſunder, 4 in a ſet. Pileus pale brown, boſſed, irregular, ſloping. Stem whitiſh, cylindrical, flattened and larger at the top.— *irregular*

Bolt. 13.

Gills decurrent, of a delicate bluſh colour, tough, broad, not numerous, 4 in a ſet.

Pileus pale brown, or whitiſh, boſſed, plaited, crumpled, irregular, ſet ſloping on the ſtem, about 2 inches over.

Stem hollow, nearly white, cylindrical, but larger and flattened at the ſetting on of the pileus, 2 inches high, $\frac{1}{4}$ inch diameter.

Specimen, deſcription, and an excellent drawing from Mr. Stackhouse.

Ditches under trees, not uncommon. Beacon Hill, Bath. Woolhope, Herefordſhire. Mr. Stackhouse.

*** Gills yellow.

AGA'RICUS *par'vus*. Gills orange, in pairs, about 20 pair. Pileus orange, dimpled. Stem orange.— *ſmall orange*

Bull. 519. 1. *B. C.*

GILLS decurrent, deep orange, paler towards the ſtem, broad for the ſize of the plant, about 20 large ones and a very ſmall one between each.

PILEUS orange, center depreſſed, edge turned down, 1-3d or ¼ of an inch over.

STEM hollow, orange, ½ or ¾ of an inch high, not thicker than a pin.

The whole plant very viſcid and ſemi-tranſparent. M. Bulliard has called this plant *corticalis*, and figured it as growing on the bark of a tree, but as that is not its moſt common ſituation, his name is not very proper.

Paſtures, Edgbaſton, amongſt ſhort graſs and moſs, common. 27th Aug. 1791.

* VAR. 1. Gills pale orange, 4 in a ſet. Pileus orange, the central dimple bluiſh purple. Stem deep orange below, paler above.

Battar. 28. *Y.—very like Bull.* 186, *but that repreſented with a ſolid ſtem.*

GILLS decurrent, whitiſh orange, not numerous, broad, 4 in a ſet.

PILEUS 1 line to ½ inch; in the ſmall ones bell-ſhaped, with plane margins; in the larger convex, always dimpled in the center; the dimple bluiſh purple, which colour runs down part of the ſtem, and may be ſeen through the gills if held up to a ſtrong light; the margin waved and plaited with great elegance, extended, thin, varying, of a pale or deep orange colour.

STEM long, ſlender, hollow, the lower half deep orange as the pileus, upper pale as the gills, ſmooth and ſhining, cottony at the baſe. The whole plant ſhining and ſomewhat tranſparent, ſhaped like a trumpet.

Pine Grove at Kirby, on moſs. Mr. WOODWARD.

navel AGA'RICUS *umbilica'tus.* (BULL.)—Gills deep buff, 4 in a ſet, large ones very broad. Pileus buff, hollow in the center. Stem reddiſh buff, cylindrical.—

Bull. 411. 2, *(but paler than our ſpecimens.)*

GILLS a little decurrent, deep red buff, 4 in a ſet, large ones about 25, much broader than the other, often cloven, ſmalleſt ſeries very imperfect.

PILEUS buff, hollow in the center, tearing with age, 1 to 1½ inch over.

STEM hollow, cylindrical, reddiſh buff, 2 inches high, thick as a gooſe or a ſwan's quill.

Paſtures, Edgbaſton. 11th Oct. 1790.

AGA-

AGA'RICUS *pri'mula*. Gills primroſe-colour, 4 in a ſet. Pileus, center brown red, border yellow. Stem yellow, tapering downwards. — *primroſe*

GILLS decurrent, pale yellow with a greeniſh caſt, 4 in a ſet, regular.

PILEUS convex, uneven, darkiſh brown red in the center, yellow at the edges, ¾ of an inch over.

STEM hollow, yellow, ſcurfy, often crooked, greatly tapering downwards, 4 inches long, thick as a gooſe quill in the middle part.

I never found this ſingular Agaric but once, and then it grew in cluſters.

Plantations, Edgbaſton. 15th Oct. 1790.

§ V. HOLLOW and FIXED.

* GILLS white.

AGA'RICUS *umbellif'erus*. (LINN.)—Gills white, broad at the baſe, few, 2 or 4 in a ſet. Pileus white, convex, a little boſſed, elegantly plaited at the ſides. Stem white, ſlender. — *trembling*

Mich. 80. 11.—*Bull.* 519. 1. *A.*—*Bolt.* 39. *A.*—*Ray ſyn. p.* 9. *n.* 46. *t.* 1. *f.* 2. *a. a.*—*Mich.* 74. 7.—*Schæff.* 309, *but the colouring a miſtake.*—*Buxb.* 4. 31. 3.

GILLS fixed, white, moſtly in pairs in the ſmall, in fours in the larger plants, long ones about 18.

PILEUS white, convex, a little boſſed, ſides plaited, very thin and ſemi-tranſparent, ¼ to ¾ of an inch over.

STEM hollow, whitiſh, ſmooth, ½ to 2½ inches high, not thicker than a horſe-hair in the ſmaller plants, nearly as thick as a crow-quill in the larger.

Ag. ſtipitatus, pileo plicato membranaceo, lamellis baſi latioribus. *Fl. ſuec.* 1192.

The delicate ſtructure of this plant cauſes it to tremble when held in the hand, as Haller has obſerved. The *pileus* has ſometimes a little mouſe-colour in its centre, and ſo has the ſtem in the larger plants towards the bottom. It dries when old, and then turns wholly of a browniſh colour. Mr. Stackhouſe once found, and figured one ſpecimen with a ring on the ſtem.—

It is ſometimes very minute. Stem not ½ inch high, and a pileus not larger than the head of a pin. Baron Haller, Michelius, and others, are inaccurate in deſcribing this ſpecies as *ſtriated*. That character, ſtrictly ſpeaking, ought to imply certain ſtreaks or marks inherent

inherent in the pileus, whereas the ſtriæ which they allude to, are nothing more than the edges of the Gills appearing plainly through the pellucid pileus. Major VELLEY.—Gills of the ſame ſubſtance as the pileus, and therefore, like the Chanterelle, not properly an Agaric. Mr. WOODWARD.

Ag. ſtipitatus, pileo plicato membranaceo, lamellis baſi latioribus. LINN. and HUDS. 621.—Ag. candidus. HUDS. 620.

Common in hedge bottoms and amongſt moſs, attached to dead leaves and half rotten ſticks. Oct. Nov.

wood AGA'RICUS *nemora'lis.* Gills white, numerous, 4 in a ſet. Pileus white, ſmooth, convex, buffy in the center. Stem white, thickeſt downwards.—

GILLS fixed, white, numerous, the upper part only attached to the ſtem, very thin and delicate, but not brittle, regularly 4 in a ſet.

PILEUS white, ſmooth, convex, pointed and buffy in the center, 1 to 1½ inch over.

STEM hollow, white, thickeſt at the bottom, which is covered with a white cottony ſubſtance, 2 to 3 inches high, thick as a raven's quill.

In woods; Edgbaſton. Oct. 31ſt.

VAR. 1. Pileus, center concave. Stem cylindrical.

VAR. 2. Pileus conical, uneven at the edge. Stem cylindrical.

GILLS fixed, white, numerous, 4 in a ſet.

PILEUS white, ſmooth, conical, very thin and therefore tranſparent, uneven at the edge, cone ½ inch high, and as much acroſs at the baſe.

Curtain ſometimes hanging in fragments to the edge of the pileus.

STEM hollow, white, cylindrical, ſmooth, ſplitting, not ſtraight but forming a ſerpentine line, 1½ inch high, thick as a crow-quill.

Plantations on low wet ground, amongſt graſs and moſs. Edgbaſton. Sept.

neat *AGA'RICUS *concin'nus.* (BOLT.)—Gills white, numerous, broad, 4 in a ſet. Pileus mouſe brown, conical, blunt. Stem white, cylindrical,—

Bolt. 15.

GILLS fixed, thin, pliable, cloſely ſet.

PILEUS conical, dark mouſe brown, diſſolving into a ſordid jelly; 2 inches over.

STEM hollow, tender, 2 to 3 inches high, thick as a gooſe quill. BOLTON.

Moiſt woods. 23d Sept. 1786.

AGA'-

AGA'RICUS *va'rius.* Gills white, not numerous, *variable*
2 or 4 in a ſet. Pileus conical, ſcored. Stem cylindrical, gloſſy, ſtiff, ſize of a crow quill. † —

VAR. 1. Gills whitiſh, 4 in a ſet. Pileus pale brown, edge plaited. Stem whitiſh, crooked and cottony at the root.

Bull. 518. *D.*

GILLS fixed, nearly white, not numerous, regularly 4 in a ſet.

PILEUS pale brown, ſometimes mouſe-colour, conical, ſcored, rather plaited at the border, ½ to 1 inch from the edge to the point of the cone. *Fleſh* white, firm.

STEM hollow, cylindrical, ſtiff and elaſtic, nearly white, but ſometimes only ſilvery white at the top, and poliſhed grey below; thicker, crooked, and cottony at the bottom, 4 to 6 inches high, thick as a crow quill.

The remarkable firm ſtiffneſs of the ſtem characteriſes this and moſt of the following varieties.

Roots and ſtumps of a filberd hedge. Oct. Nov.

VAR. 2. Gills white, inoſculating, 2, 3, or 4 in a ſet. Pileus purpliſh brown. Stem bluiſh brown.

Schæff. 52. 1—6.

GILLS fixed, white, fleſhy, firm, often very irregular and interlaced with ligaments connecting them together, but the general diſpoſition 2 or 4 in a ſet.

PILEUS brown, with more or leſs of a purpliſh tinge, edge in the young plants cooped in and white, conical, pointed or boſſed, but the apex not always central, ſtreaked, ½ to ¾ inch from the edge to the point of the cone.

STEM hollow, cylindrical, but more or leſs compreſſed, bluiſh brown, to pale mouſe, firm, tough, generally crooked, 1½ inch high, thick as a crow quill, ſometimes a little woolly towards the bottom in the larger plants.

Ag. conicus. HUDS. 620.

Roots of filberd trees, with the preceding. Nov.

VAR. 3. Gills white, 4 in a ſet, connected by threads to the pileus. Stem ending in a pear-ſhaped bulb.

GILLS fixed, white, moderately numerous, connected by white ligaments to the pileus, 4 in a ſet, but the ſmaller ſeries very irregular in ſize.

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† M. Bulliard has well figured ſeveral ſorts of this variable ſpecies in his 518th plate, all of which have not occurred to me, but I have found ſeveral which ſtill remain to be figured, and have no doubt but ſeveral others may yet be found. On this account, and from the difficulties which I know this variable ſpecies has occaſioned, particular deſcriptions are added to each variety; for by this means only can we hope to get them properly arranged.

PILEUS

Pileus brown, conical, but expanded, pointed, ſides ſtreaked, ½ to 1½ inch over.

Stem hollow, mouſe colour, ſmooth, 1½ to 3½ inches high, thick as a crow quill, ſwelling ſuddenly at the bottom into a pear-ſhaped bulb, and then dividing into roots.

Ag. *filopes*, Bull. 320, the right hand figure would give a good idea of this plant if the ſtem were not ſo tall and ſlender, the Gills not looſe, and the root not hairy.

Edgbaſton Park. 13th Nov. 1790.

Var. 4. Gills white, 2 or 4 in a ſet. Pileus browniſh white, mottled with purple dots. Stem white.

Bull. 518. E. expreſſes a mottled variety, but it is larger and more coloured than our ſpecimens.

Gills fixed to the ſtem by a ſmall claw, white, not numerous, 4 in a ſet, but the ſmaller ſeries often wanting.

Pileus browniſh white, mottled with purpliſh dots and ſtreaks, conical, cracking at top when full grown, ½ inch from the edge to the point of the cone. *Fleſh* white.

Stem hollow, white, gloſſy, ſplitting, often crooked, 1 to 1½ inch high, thinner than a crow quill.

At the bottom of poſts and pales. 25th Nov.

Var. 5. Gills white, with purple blotches, 2 or 4 in a ſet. Pileus whitiſh, with purpliſh brown blotches. Stem brown.

Gills fixed, of a dirty white with purple blotches; not numerous, 2 or 4 in a ſet.

Pileus whitiſh, irregularly blotched with purpliſh brown, conical, ſcored, wrinkled at the border, not fleſhy, ½ inch from the edge to the point of the cone.

Stem hollow, brown, darkeſt at the bottom, ſhining, ſplitting, crooked, 2 to 3 inches high, thinner than a crow quill.

This ſingular and beautiful variety has not been figured. It is not common with us.

On a hedge bank in the old road, Edgbaſton. 27th Nov. 1791.

Var. 6. Gills white, in pairs, long ones ſplitting. Pileus conical, peaked, brown mouſe. Stem pale mouſe, feeble. Root thick, crooked.

Gills fixed, white, in pairs, long ones often ſplitting at the outer end, or the ſhort Gill connected with the long one.

Pileus conical, pointed, brown mouſe, ſides wrinkled, ½ to 1 inch from the edge to the apex of the cone.

Stem hollow, whitiſh mouſe, ſmooth, feeble and bending before the decay of the pileus; 2 to 3 inches high, not half the thickneſs of a crow quill. *Root* much thicker than the ſtem, bent horizontally and ſometimes turning upwards.

Stumps of a filberd hedge, Edgbaſton, 17th Oct. 1790.

Var.

VAR. 7. Gills white, in pairs. Pileus dark brown. Stem grey.

Bull. 518. *C.*

GILLS fixed, white, alternately long and ſhort, about 20 of each ſort.

PILEUS brown to chocolate colour, conical, blunt, border bent in and wrinkled, ¼ of an inch from the edge to the point.

STEM hollow, ſilvery grey, often crooked, ½ to 1 inch high, not much thicker than a large pin.

This is ſometimes found not much above a fourth part as large. Not uncommon in hedge banks. 22d Oct.

* VAR. 8. Gills white, 2 or 4 in a ſet. Pileus, upper parts black, lower parts white. Stem black below, white upwards.

Bolt. 137.

GILLS narrow, long ones attached to the ſtem by a pointed claw.

PILEUS oblong egg-ſhaped, changing to bell-ſhaped; ¾ of an inch high; white at the edge only when young, but as it grows, the white extends up to its middle.

STEM duſky approaching to black, but when full grown the top is white. Near 3 inches high; thick as a raven quill. BOLTON.

Ag. atro-albus. BOLT.

Amongſt moſs about the roots of trees, but rare.

* VAR. 9. Gills white, irregular, long ones ſometimes cloven. Pileus dark brown at top, paler at the edge. Stem almoſt black, root crooked, knotted.

Jacq. fl. t. 81.

GILLS looſe, pale, unequal, moſtly 4 in a ſet, long ones ſometimes cloven.

PILEUS bluntly conical, dark brown at the top, paler towards the edge, ſcored, ſmooth, opake, 1½ inch over.

STEM hollow, black, ſhining, ſtraight, firm, 4 to 6 inches high.

Root crooked, thick, knotty, ſunk about an inch into the earth, and always attached to rotten wood. Always ſolitary. Has a ſtrong offenſive garlic ſmell, which it retains for days after it has been gathered. Linnæus ſuppoſed it to be a variety of his Ag. campanulatus. JACQUIN.

Ag. alliaceus. Jacq. but not of Bulliard, for that has a ſtem hairy on the outſide and ſolid within.

Profeſſor Jacquin does not ſay in his deſcription whether the Gills are fixed to the ſtem or not, and in his drawing they appear to be looſe, but ſtill it has ſo much the ſtructure of the Ag. varius that I venture to place it here, until further obſervations ſhall determine that point, well knowing how little the figures are to be truſted in a point which did not appear of importance to their authors. Mr. Relhan

Relhan tells us he found this plant in woods and ſhady places attached to rotten wood, and oak leaves, particularly in Madingley plantations. Sept.

flat-ſtemm'd AGA'RICUS *compreſ'ſus*. Gills white, fleſhy, few, 2 to 8 in a ſet. Pileus brown, irregular. Stem white, compreſſed.—

Gills fixed, white, fleſhy, broad, wide apart, very irregular, 2 to 8 in a ſet, but moſt frequently 4; often forked at the outer end.

Pileus brown, center generally darkeſt, very thin, bluntly conical, but very irregular in ſhape, more or leſs tranſparent, when full grown the ſkin cracks and forms little ſcales; from 1 to 2½ inches over.

Stem hollow, containing more or leſs of a looſe pith, white, browniſh at the bottom, compreſſed, rarely ſtraight, often irregularly crooked and twiſted, ſometimes ſo compreſſed as to appear double, ſplitting, ¼ to ½ inch diameter, 2 to 3 inches high. The whole plant very brittle and watery. In a great quantity of ſpecimens I did not find a ſingle one that had not a compreſſed ſtem. Is not this another variety of the ſportive Ag. aurantius?

In patches on the riſing ground oppoſite the Stews, Edgbaſton. 28th June, 1792.

ſilver-edged AGA'RICUS *argen'teus*. Gills watery browniſh white, 4 or 8 in a ſet, ſhining at the edges. Pileus pale watery brown, boſſed. Stem white.—

Gills fixed, watery browniſh white, 4 or 8 in a ſet, the ſmall ones irregular and uncertain, the long ones ſometimes ſplitting, all of them ſhining ſilvery white at the edges.

Pileus pale watery brown, rather conical, boſſed, center darker, ſurface mealy, ſtreaked at the ſides when young, wrinkled and plaited when old; 1 to 2½ inches over.

Stem hollow, ſilvery white, cylindrical, but thicker downwards, tender, ſplitting, 2 to 2½ inches high, thick as a gooſe or a ſwan's quill.

Grows in cluſters, under elm trees in Edgbaſton Park. 10th April, 1792.

ſilberd AGA'RICUS *auri'comus*. (Batsch.) Gills browniſh white, few, in pairs. Pileus golden brown, convex, boſſed. Stem brown, thick at the top.—

Batſch. 21.

Gills fixed, browniſh white, not numerous, in pairs, but ſometimes a little Gill intervening.

Pileus

Pileus rich brown, gently convex, boſſed, ſlightly ſcored, ½ inch over. *Fleſh* white.

Stem hollow, pale brown, thicker and flattened at the top, firm, ſmooth, 1½ to 2 inches high, thick as a crow quill.

Roots of filberd trees, Edgbaſton. 24th Nov. 1790.

AGA'RICUS *plum'beus*. (Schæff.)—Gills white, numerous, uniform. Pileus light brown with ſome bluiſh lilac tints, convex, border ſtreaked. Stem white; ring permanent.— *froſted*

Fl. dan. 1014.—*Schæff.* 85. 86, *(but the hollow ſtem not well expreſſed, though particularly mentioned in the deſcription.)*—*Battar.* 6. *B.*—*Mich.* 78. 2.—*J. B.* iii. 826, *fig. to the left hand, good.*—*Sterb.* 20, *K.* 21. *B.*—*Buxb.* 48. 1, *very bad.*

Gills fixed, white, very numerous, ſhining at the edges, nearly uniform, a ſhorter Gill only now and then intervening.

Pileus convex, brown in the center and boſſed; border with more or leſs of a bluiſh lilac caſt, ſtreaked. In its younger ſtate froſted with white ſhining particles; 1½ to 3 inches over. *Fleſh* white.

Stem hollow, a looſe pith in the cavity, very white, cylindrical, bulbous at the bottom, 2 to 3 inches high, ½ inch diameter. *Ring* white, permanent.

Ray *Syn.* 7.31, and all the ſynonyms of Hudſon's *verrucoſus*, except Schæff. 90. 91, which are the *Muſcarius*.

This is one of the Agarics which poſſeſſes all the parts properly belonging to the Genus, and the froſted appearance on the pileus is probably the fragments of the wrapper. This ſpecies is undoubtedly deleterious, vide J. B. iii. 826, where it is well deſcribed; alſo Haller hiſt. 2397, and Battar. p. 28, whoſe fig. and deſcription are excellent.

Paſtures, Edgbaſton, ſeveral together. Oct.

Var. 1. Pileus very pale bluiſh lilac.

Schæff. 244.

Shady ſituations, Edgbaſton Park. Oct.

AGA'RICUS *ova'lis*. Gills browniſh white, 4 in a ſet. Pileus cinnamon, boſſed. Stem browniſh white, cylindrical.— *oval-headed*

(Bull. 443, *gives an idea of it, but the ſolid ſtem precludes it from being the ſame.)*

Gills fixed, browniſh white, broad, the edge ſhaped like a bent bow, not very numerous, 4 in a ſet, the ſecond ſeries nearly as long as the firſt in the young plants, but the difference is greater as the growth advances.

Pileus

Pileus convex, ſlightly boſſed, edge turned down, frequently oval, red brown, paler at the border, ſattiny, 1 to 3½ inches over. *Fleſh* white.

Stem hollow, browniſh white, cylindrical, but often ſomewhat flattened, thicker towards the root, ſmooth, ſilky, not quite central, 2 to 3½ inches high, ¼ to ½ inch diameter. *Root* bulbous.

Fir plantations at Bar, Staffordſhire, and in Edgbaſton plantations. Sept. Oct.

Var. 1. Stem rich cinnamon coloured like the pileus, and furniſhed with a ring.

Specimen and drawing from Mr. Stackhouſe.

Coplar wood, Herefordſhire. Mr. Stackhouse.

purpliſh AGA'RICUS *purpuras'cens*. Gills purpliſh greeniſh white, 4 in a ſet but irregular, connected by threads to the pileus. Pileus, edge purpliſh, boſs reddiſh brown. Stem purpliſh white.—

Gills fixed ſtrongly to the ſtem, purpliſh white with a caſt of green, fleſhy, not numerous, connected by ligaments to the pileus, moſtly 4 in a ſet, but very irregular, the long ones ſometimes ſplitting into 3 or 4 diviſions at the outer end. The Gills of the ſecond order often end at a diſtance from the ſtem, whilſt a bit of gill is found on the ſtem, ſeemingly intended to meet the other.

Pileus convex, boſſed, very thin and ſemi-tranſparent at the edge, turning up with age; central boſs pale reddiſh brown, border darker brown with a purple tinge; 1½ to 2 inches over.

Stem hollow, partly filled with a light looſe pith, whitiſh with a purple tinge, ſmooth, 2 inches high, thick as a ſwan's quill, more or leſs bent, and ſometimes ſwollen in the middle.

By the long ſtew, Edgbaſton. 14th July, 1792.

blue-edged AGA'RICUS *ſub-cæru'leus*. Gills whitiſh, numerous, 4 or 8 in a ſet. Pileus convex, center brown, edge blue. Stem pale brown. Root large, bulbous.—

Gills ſlightly connected with the ſtem, nearly white, ſlightly and irregularly ſerrated at the edges, the ſerratures moſt obvious in the older plants, 4 or 8 in a ſet.

Pileus convex, brown in the center, bluiſh at the edge, elſewhere pale buff, or almoſt white, ſmooth, 1½ to 2 inches over.

Stem hollow, but the hollow partly filled with looſe pith, pale brown, cylindrical, ſmooth, cottony at the baſe, 2 inches high, thick as a gooſe

gooſe quill. *Root* a large bulb, covered with a white cottony ſubſtance, and dead leaves adhering to it.

Plantations, Edgbaſton. 31ſt Oct. 1790.

AGA'RICUS *purpu'reus.* (BOLT.)—Gills white, 4 in a ſet. Pileus purpliſh, ſomewhat boſſed. Stem cylindrical, purple.— *purple-ſtemmed*

Bolt. 41. *B.—Batſch.* 20, *very like our plant, but the ſtem thicker, and neither the drawing nor the deſcription ſpeak ſufficiently to the ſtructure.*

GILLS fixed, white or purpliſh white, 4 in a ſet, uneven at the edge, moderately numerous, ſmaller ſeries very ſmall, ſometimes 1 wanting.

PILEUS bluiſh white or purple, changing to yellow brown, gently convex, or nearly flat, but always more or leſs of a central boſs, turning up at the edge with age, ſmooth, ½ to 1 inch over.

STEM hollow, red purple, cylindrical, thick as a crow quill, 1½ to 2 inches high. *Curtain* purpliſh, compoſed of threads like a cobweb, vaniſhing when the plant is yet young.

The purple colour of the ſtem is the ſame within as without; that of the pileus is very evaneſcent. Notwithſtanding the difference of ſize, &c. it may poſſibly be only a variety of the preceding ſpecies.

Fir Plantations at Bar. June 28, 1792.

** GILLS brown.

*AGA'RICUS *liga'tus.* Gills pale brown, 4 in a ſet, connected to the pileus by ligaments. Pileus pale brown, flat, boſſed. Stem pale brown.— *corded*

GILLS fixed, pale brown, 4 in a ſet, connected together and to the pileus by croſs threads.

PILEUS pale brown, flat, boſſed, thin, center deeper brown, 1½ inch over.

STEM hollow, pale brown, cylindrical, ſmooth, 4 inches high, thick as a crow quill.

The whole plant ſemi-tranſparent, pale brown, white and opake when dry. The threads or ligaments do not ſeem ſo much formed for connecting the Gills together as for ſtrengthening their union with the pileus and to keep them perpendicular to it.

Edgbaſton Park. 7th Nov. 1790.

AGA'RICUS *parti'tus.* Gills pale brown, few, 2 or 4 in a ſet. Pileus conical, pale brown, ſides plaited. Stem whitiſh brown, ſplitting at the top.— *clovenſtemm'd*

GILLS

Gills fixed, pale brown, not numerous, 2 or 4 in a set, the small series being often absent, especially in the smaller plants.

Pileus mouse brown, paler with age, conical, pointed, sides plaited, ½ inch from the base to the apex of the cone.

Stem hollow, pale brown, cylindrical, polished, splitting at the top, 3 to 4 inches high, thick as a thin crow quill.

This is a very delicate plant, the stem uniformly splits at the top in all the specimens I have examined. The pileus always retains its conical shape.

Edgbaston plantations, amongst moss. Nov.

Var. 1. Gills regularly in pairs. Stem white above, mouse below, 2 inches high.

Edgbaston plantations. Oct.

red-brown AGA'RICUS *lacrima'lis*. (Batsch.)—Gills deep red brown, not numerous, 4 in a set. Pileus ochrey brown, scored, dimpled. Stem red brown.—

Batsch. 8.

Gills fixed, deep red brown, semi-transparent, not crowded, 4 in a set.

Pileus ochrey brown, scored at the sides, dimpled in the center, edge mostly turned down, ½ to 1 inch over.

Stem hollow, reddish brown, generally crooked, 1½ to 2 inches high, hardly so thick as a crow quill.

Hedge banks, Edgbaston old road. 27th Nov.

Var. 1. Pileus conical. Gills hanging below the edge of the pileus.

Batsch. 7.

Grass plats. July.

scurfy AGA'RICUS *circumsep'tus*. (Batsch.)—Gills reddish brown, 4 in a set. Pileus whitish brown, scurfy, convex, dimpled. Stem whitish brown, turned up at the base.—

Batsch. 98.

Gills fixed, reddish brown, 4 in a set, but the short ones very imperfect from the edge of the pileus rolling in.

Pileus gently convex, whitish brown, scurfy, dimpled, edge at first much bent inwards, but with age tearing and turning up.

Stem hollow, cavity very fine; whitish brown, darker with age, cylindrical, 2 to 2½ inches high, thick as a raven quill. *Root*, the end of the stem thickened and a little turned up.

Fig. of Batsch too small, but he mentions in his description, which is a very good one, that the plant is sometimes much larger.

Edgbaston in pasture lands. 11th Oct. 1790.

AGA'RICUS *te'ner*. (SCHÆFF.)—Gills nut brown, 4 in a ſet, extending below the edge of the pileus. Pileus deep buff, bluntly conical, dark brown at the edge. Stem nut brown, ſmooth, ſplitting.— *nut-brown*

Schæff. 70.—*Bull.* 535. 1.—*and* 403. *B. C. (but the colours in the latter paler than our ſpecimens.)*

GILLS fixed ſlightly to the ſtem, rich nut brown, their extremities dipping below the edge of the pileus, not numerous, 4 in a ſet.

PILEUS deep buff, dark brown edge, bluntly conical, ſmooth, ½ inch from the baſe to the apex of the cone.

STEM hollow, nut brown, cylindrical, ſilky, ſmooth, ſplitting, twiſting, 3½ inches high, hardly ſo thick as a crow quill.

Edgbaſton, the farther plantation, amongſt graſs and moſs.

31ſt Oct. 1790.

AGA'RICUS *fus'co-fla'vus*. Gills dark cinnamon, 4 in a ſet. Pileus brown yellow, convex, boſſed, edge turned down. Stem brown yellow, ſplitting.— *yellow-brown*

Schæff. 4.

GILLS fixed, full cinnamon, broad but not very numerous, 4 in a ſet, regular.

PILEUS convex, brown yellow, ſattiny, a ſmall pointed boſs in the center, edge dipping down, 1½ to 2 inches over.

STEM hollow, browniſh yellow, white below, ſattiny, cylindrical, compreſſed, ſplitting, 2 to 4 inches high, ¼ inch diameter, or more. Sometimes the pileus is dimpled and ſcurfy, and the long Gills are much broader than the others. Theſe differences ſeem chiefly to take place when the plants attain a larger ſize, viz. the ſtem from 3 to 5 inches high, and the pileus 3 or 4 inches over.

Schæffer's name cannot properly be retained, but our plant exactly correſponds with his figure, which has repeatedly been conſidered as the Ag. *cinnamomeus* of Linnæus. Mr. Bolton ſeems to be the firſt who has diſcovered that plant in this kingdom, and has figured it extremely well in his appendix.

Paſtures, Edgbaſton. 17th Oct. 1790.

AGA'RICUS *vulpi'nus*. Gills red cheſnut, 2 or 4 in a ſet. Pileus cheſnut, ſmall, flattiſh, dimpled. Stem fox-colour.— *foxy*

GILLS fixed, cheſnut-colour, firm, 4 in a ſet, about 30 long ones.

PILEUS cheſnut, flattiſh, dimpled, turning up with age, ½ or ¼ of an inch over.

STEM

STEM hollow, the perforation very fine, tawney or fox-colour, firm, fleshy, 2 to 4 inches high, thick as a swan's quill.

The almost uniform dead foxy-colour, the smallness, flatness, and thinness of the pileus, compared with the length, the firmness, and the thickness of the stem, give this plant a very singular appearance, but I have not found any figure resembling it.

Several together, seemingly from one common root, amongst moss; Edgbaston. 11th Oct. 1790.

VAR. 1. Gills in pairs, long ones about 50. Pileus convex, not dimpled, very small. Stem club-shaped, greatly tapering upwards.

Edgbaston plantations. Aug.—Oct.

Moss AGA'RICUS *Hypni*. (BATSCH.)—Gills cinnamon, 4 in a set, long ones about 15. Pileus reddish brown, conical. Stem cylindrical, fox-coloured, shining.—

Batsch. 96.

GILLS fixed, cinnamon colour, 4 in a set, long ones about 15.

PILEUS uniform reddish brown, conical, blunt, rather scored, 1-8th to ¼ of an inch over.

STEM hollow, but pithy, cylindrical, shining, tawney or fox-colour, ¾ to 1½ inch high, not thicker than a pin.

Amongst moss. Oct.

ragged AGA'RICUS *lacinia'tus*. Gills brown, very broad, ragged at the edges, 4 in a set. Pileus light brown, semi-globular. Stem white, tapering downwards.—

GILLS slightly fixed to the top of the stem, brown, ragged at the edges, very broad, filling up the hollow of the pileus, 4 in a set.

PILEUS light brown, semi-globular, smooth, 1 to 2 inches over.

Flesh white.

STEM hollow, white, tapering downwards, 1½ to 2 inches high, thick as a goose quill.

Edgbaston Park. 15th Oct. 1790.

shield AGA'RICUS *clypea'tus*. (LINN.)—Gills greyish brown, 4 or 8 in a set. Pileus pale brown, convex, bossed, viscid. Stem white, viscid.—

Bolt. 57.—*Schæff.* 52. *f.* 7. 8. 9, *the stem and the boss more coloured than ours.*—*Battar.* 25. *E.*

GILLS fixed slightly to the stem, greyish watery brown, 4 or 8 in a set.

PILEUS brown, convex, bossed, border scored, very viscid, so that flies lighting upon it cannot escape, paler in colour when this viscid matter is rubbed off, 1 to 1½ inch over.

STEM

Stem hollow, white, viſcid, tender, eaſily broken, ſplitting, 3 or 4 inches high, thick as a crow quill.

Ag. ſtipitatus, pileo hemiſphærico ſordido; umbilico prominente, lamellis albis, ſtipite longo cylindraceo albo. *Fl. Suec.* 1216.

Pileus hemiſpherical, generally with a pointed boſs, viſcid. *Gills* white not hollow underneath, their ſides ſprinkled with a dark coloured powder. *Stem* cylindrical, long, ſlender, white. Linn.

There is ſome doubt whether we are right in conſidering this ſpecies as the ſame with the *Clypeatus* of Linnæus. He ſays the Gills are *white*, but then the circumſtance of their being duſted with a dark coloured powder may give them the colour we have deſcribed. He refers to Haller *enum.* 41. 35, where Haller deſcribes them as very white; in every other reſpect his deſcription applies exactly to our plant, and he refers at 2388 of his *Hiſt. Helv.* to the ſame figures which we have found to correſpond with ours.—This in many reſpects reſembles the Ag. *varius*, but the elaſtic firm and wiry ſtem of that, is very different from the tender texture of this. Mr. Stackhouse.

Plantations in Edgbaſton Park. 5th Sept.

AGA'RICUS *ſimi-pu'tris*. (Bull.)—Gills dark brown to black, 4 or 8 in a ſet. Pileus pale brown, conical, blunt, apex poliſhed. Stem white.— *equilateral*

Bull. 66, *(very exact, but the ſtem more coloured than ours.)*

Gills fixed, dark brown changing to black and liqueſying, numerous, moſtly 4, but in the full expanſion of the larger plants, 8 in a ſet.

Pileus pale dead brown, conical, blunt, apex more or leſs ſmooth and poliſhed, ſides a little ſtreaked, thin, ſemi-tranſparent, 1 to 2 inches from the edge to the top of the cone and as much in diameter at the baſe, forming an equilateral triangle.

Stem hollow, ſilvery white, ſplitting, cylindrical, 2 to 5 inches high, thick as a raven's quill. Top of the pileus ſometimes ſlightly tinged of a cheſnut colour.

In gardens. Oct.

Var. 1. Gills 4 in a ſet. Pileus grey to black.

Bolt. 66. 1.

In all other reſpects ſimilar to the above, but not more than half the ſize.

Amongſt rotten oak leaves on graſs land. Oct.

Var. 2. Gills chocolate brown to black, mottled, in pairs. Pileus mouſe colour, conical, pointed. Stem mouſe, cylindrical, firm.

Gills fixed, dark brown, mottled, turning black, in pairs.

Pileus conical, pointed, mouſe coloured, ſleek and ſattiny, ½ to 1 inch from the baſe to the apex of the cone.

Stem hollow, cylindrical, firm, mouſe colour, darker below, 3 to 6 inches high, thick as a crow quill.

Curtain extremely delicate and fugacious, for a ſhort time fringing the edge of the pileus.

This though one of our moſt common, and when in perfection a beautiful ſpecies, does not appear to be figured by any one. In a fine ſummer morning it is covered witth a bloom like that on a plumb, frequently with a glittering ſpangled appearance, which, aided by the regularity of its form and the fine fringe of the curtain, make it an object which the eye contemplates with pleaſure. When gathered the top of the ſtem is apt to bend at a right angle, ſo that the apex of the cone points horizontally. The bloom ſoon vaniſhes, and the whole turns black in decay. In its general habit and the firmneſs of its ſtem, it approaches the Ag. varius.

Graſs plats and new mown fields. July.

honey AGA'RICUS *mel'leus*. (Schæff.)—Gills pale watery brown, 4 in a ſet. Pileus pale buff, center deeper, rather conical. Stem whitiſh, crooked. Curtain fugacious.—

Schæff. 45.

Gills fixed by ſmall claws to the ſtem, pale watery brown, 4 in a ſet.

Pileus buff in the center, paler towards the edge, rather conical, edge turned in, ſmooth, clammy, 2 inches over. *Fleſh* yellow white.

Stem hollow, whitiſh, ſcurfy and brown below, cylindrical, crooked, 2 to 3 inches high, thick as a ſmall gooſe quill.

Curtain white, tender, not leaving a ring.

Grows in cluſters, with a large root extending horizontally, and fixed to fragments of rotten wood.

Edgbaſton plantations. 21ſt Auguſt.

* Var. 1. Pileus cheſnut colour.

Bolt. 10.

I venture to place this here, but wiſh the author had been more explicit either in his figure or in his deſcription.

fleſhleſs AGA'RICUS *ma'cer*. Gills pinky pale brown, 8 in a ſet. Pileus pale brown, convex, boſſed. Stem white, cylindrical, ſmooth.—

Bull. 518. *f.* F.

Gills fixed, pinky white when young, changing when expanded to a browniſh fleſh colour, thin, numerous.

Pileus

Pileus conical when young, nearly flat when old, always boſſed, ſlightly ſcored, uneven at the edge, very thin and ſemi-tranſparent, the pale dead brown when rubbed getting a pinky caſt; from 1 to 3½ inches over.

Stem hollow, white, cylindrical, ſmooth, ſplitting, from 1¼ to 4 inches high, from 1-8th to 3-8ths diameter. Neither curtain nor ring.

Growing in cluſters, and like moſt of the cluſtered *Agarics*, varying very much in ſize.

Edgbaſton Milking-bank. July—Sept.

Var. 1. Gills pinky brown, 4 or 8 in a ſet. Pileus very pale buff, nearly flat. Stem with a little looſe pith in the hollow.

Batſch. 111, *(but the pileus in our plants paler and flatter.)*

Gills fixed, fleſhy brown colour, with a purpliſh tinge at the edges when ſhedding the ſeed, 4 or 8 in a ſet.

Pileus nearly flat, with a gently raiſed boſs, buffy white at the border, more buffy in the center; a little cracking and wrinkled at the edge, 1 to 1½ inch over. *Fleſh* very thin, white.

Stem hollow, with more or leſs pith, white, cylindrical, ſmooth, 3½ inches high, thick as a crow or raven quill.

The ſtem is much taller in proportion to the ſize of the pileus than in the preceding.

In cluſters on rotten wood. Oct.—April.

* Var. 2. Gills 4 in a ſet. Pileus nearly white, hemiſpherical, tranſparent. Stem white.

Bolt. 11.

Gills fixed, white with a faint reddiſh brown tinge, black in decay; thin, flexible, broad, diſtant, 4 in a ſet.

Pileus white, hemiſpherical, never turning up, ſometimes waved at the edge, membranaceous, thin, 1½ to 2 inches over.

Stem hollow, white, readily ſplitting, 2 or 3 inches high, thick as a ſwan's quill. Bolton.—Entirely without fleſh. Mr. Woodward.

Shady woods on the decaying roots of fallen oak trees. [Not uncommon. Mr. Woodward.]

AGA'RICUS *virida'rius*. Gills pale brown, 4 in a ſet, few. Pileus rich buff, convex. Stem pale buff, cylindrical.— *graſs plat*

Schæff. 226.

Gills fixed, pale brown, 4 in a ſet, long ones not more than 16.

Pileus rich buff, regularly convex, ſmooth, ¾ inch over.

Fleſh yellowiſh.

Stem hollow, the cavity pretty much filled with a white pith; pale buff, cylindrical, ſmooth, 1 inch long, thinner than a crow quill. *Root* a knob.

Has none of the powdery matter on the pileus mentioned by Schæffer, but that is probably a very tranſitory appearance. The hollow in the ſtem is uniformly filled with a white pith, the ſurrounding fleſh having a yellow caſt. This pith does not appear in Schæffer's figure, therefore I ſuppoſe it is not always found ſo fully to occupy the hollow.

Graſs plats, but not very common. Aug.

*** Gills red.

cinnamon AGA'RICUS *cinnamo'meus*. (Linn.) — Gills deep tawny red, broad about the middle, 4 in a ſet. Pileus rich cinnamon, convex, ſomewhat boſſed. Stem yellow.—

Bolt. 150. *(not Schæff. t.* 4.)

Gills tawny red. *Pileus* convex, but flatted, often with a central riſe; colour of leather, or of a cheſnut. *Stem* yellowiſh, naked, long. It is readily diſtinguiſhed by its cinnamon colour. Linn. —Not Haller n. 2432, nor Ray *ſyn.* 5. n. 23, nor Huds. 615. n. 19. —*Gills* a glowing reddiſh yellow. *Pileus* yellowiſh ſnuff colour, clothy to the touch. *Stem* bright yellow, fleſhy, thicker at bottom. So well deſcribed by Linnæus that it is ſurpriſing it has not been ſince obſerved. Theſe obſervations accompanied by a beautiful drawing of the plant by Mr. Stackhouse.

Gills fixed by claws, which break as the pileus attains its fulleſt expanſion, deep tawny red, broadeſt in the middle, uneven at the edge, not crowded.

Pileus rich cinnamon, convex, the edge turned down, but flat and the edge curled in, even in its ſtate of greateſt expanſion, the central boſs ſmall, pointed; diameter 1½ to 3½ inches.

Stem hollow, fine full yellow, cylindrical, generally crooked, ſometimes in old plants flatted, 2 inches high, ſilky, ſhining, thick as a gooſe quill.

Plantations belonging to Mr. Pearſon at Tettenhall, Staffordſhire. July, 1792.—Pendarvis, Cornwall. Mr. Stackhouse.

roſy AGA'RICUS *roſeus*. (Bull.) — Gills roſe red, 2 to 4 in a ſet, connected by croſs threads. Pileus roſe red, boſſed. Stem pale roſe.—

Bull. 162.

Gills fixed ſlightly to the ſtem, delicate roſe or peach bloſſom colour, not numerous, 4 in a ſet, but the ſhorter ſeries often wanting, large

large Gills in the larger plants as if bitten at the edges; all of them connected by croſs threads or ligaments.

Pileus bloſſom or pale roſe colour, convex, boſſed, ſcored at the ſides, edge ragged, turning up with age and changing to yellow brown, from ½ to 1½ inch over.

Stem hollow, pale roſe colour, firm, ſplitting, cylindrical, ſmooth, 2 to 4 inches high, from 1-8th to 3-8ths of an inch diameter.

Ag. incarnatus. Relhan. ſuppl. ii. n. 1092.

Plantations, Edgbaſton. Nov. 1790.

Var. 1. Gills fleſhy. Pileus brown buff inclining to roſe, boſs darker, ſmooth, ſides ribbed. Stem pale roſe or yellowiſh, white at the top.

Schæff. 303.

Bottom of ſtumps. Nov.

AGA'RICUS *æruginoſus*. (Curtis.) — Gills lilac, 4 or 8 in a ſet. Pileus blue, changing to brown yellow, convex, boſſed. Stem bluiſh.— *verdigris*

Curt. 309, *excellent, (but not Hudſon's viridis which has white Gills, nor yet Micheli* 152, *albi et virides*, 2, *which has a white ſtem alſo.)* —*Schæff.* 1.—*Bolt.* 143, *a very large ſpecimen.*

Gills fixed, numerous, rich lilac colour, 4 in a ſet in the ſmall, 8 in the large plants.

Pileus convex, boſſed, blue, ſlimy, 1 to 3 inches over; border turning up when old.

Stem hollow, bluiſh, white at the top, nearly cylindrical, 1½ to 2½ inches long; lower part covered with a thin bluiſh green ſkin. *Curtain* white, delicate, fringing with its fragments the border of the pileus, and forming a ring on the ſtem, but not a very permanent one.† *Root* conical, thicker than the ſtem, growing to rotten wood.

The blue colour of the pileus ſeems cauſed by the ſlimy matter upon it, and this being laid on a yellow ground, produces a greeniſh caſt.

Ray *Syn.* p. 6. n. 30.

Rookery, Edgbaſton.—Not uncommon in woods. Mr. Stackhouse.—Earſham wood, Suffolk. Mr. Woodward. Sept. Oct.

Var. 1. Gills 4 in a ſet. Pileus pale blue, pointed. Stem entirely white.

† In the Autumn of 1788, in ſeveral hundred ſpecimens, I never found one that had a *Ring* on the ſtem, but the following year, almoſt every one which occurred had this diſtinguiſhing mark. Major Velley.

A ſmall ſpecimen, perhaps only different from having grown ſhaded by a large plant of the Ag. Liſteri. Var. 1. 31ſt Oct.

Var. 2. Gills regularly 4 in ſet, without croſs threads. Pileus conical. Stem white.

Gills fixed, few, regularly 4 in a ſet, peach bloſſom colour.

Pileus conical, pointed, bloſſom colour, uneven at the edge.

Stem hollow, beautifully white, 2½ inches high, ¼ inch diameter.

Edgbaſton, by the ſtews, amongſt graſs; rare. 27th Oct. 1790.

Theſe plants are ſemi-tranſparent, tender and brittle. I think Mr. Bulliard miſtakes in ſaying the Gills are *looſe*, they only become ſo when the pileus turns up as the plant approaches its decay, and then they are torn from the ſtem. His reference to Schæffer, t. 75, is certainly erroneous, for that is Ag. *integer*.

ſattin * AGA'RICUS *fiſ'ſus*. (Bolt.)—Gills pale brick red, broad, numerous, 4 in a ſet. Pileus conical, duſky olive, brown at the top. Stem grey, ſplitting,—

Bolt. 35.

Gills fixed, thin, flexible, of a colour between carnation and orange.

Pileus ſtriated at the edge, bluntly conical, 1 to 2 inches over.

Stem hollow, pale grey, but cloſely examined appears to have fine longitudinal ſtripes of a mouſe colour and ſilky white alternately; frequently ſplits throughout its whole length, the edges of the divided parts rolling in ſo as to give the appearance of 2 ſtems ſupporting one pileus; 4 or 5 inches high, thick as a gooſe quill. Bolton.

Woods about Halifax.

**** Gills purple.

livid purple * AGA'RICUS *livido-purpu'reus*. Gills purple, few, brittle, 4 in a ſet. Pileus purple, convex. Stem purple, cylindrical, brittle.—

Bolt. 63; *and* 4.

Gills fixed, irregularly waved at the edge.

Pileus convex, waved at the edge, turning up with age and loſing its colour; 1½ to 2½ inches over.

Stem hollow, often crooked, colour changing to a dirty brown; 2 to 3½ inches high, ¼ inch diameter. Bolton.

Ag. amethyſtinus. Bolt. but that name was pre-occupied. Mr. Bolton's name for pl. 4, he himſelf diſcovered to have originated in a miſtake.

β Var 1. Whole plant of a dirty browniſh fleſh colour.

Bolt. 64.

Mr.

Mr. Bolton thinks this the ſame as his pl. 63, and ſays he finds no diſtinction between them except in *colour*. If ſo, the diſſections have been made careleſsly, for the Gills in this are drawn remarkably *diſtant from the ſtem*, whilſt in pl. 4, and pl. 63, they are drawn as *fixed to the ſtem*. Perhaps however he is right, and the diſſected figure may have been drawn from a plant in a weak or decaying ſtate, when the Gills may have ſeparated from the ſtem. I ſuſpect that the whole plant was in a diſeaſed ſtate.

Moiſt woods, on ſteep rocks. Aug.—Nov.

***** Gills yellow.

AGA'RICUS *auran'tius*. (Lightfoot.)—Gills yellow, fleſhy, 8 in a ſet. Pileus conical, orange, edge uneven. Stem yellow, ſplitting.— *orange*

Curt. 308.—*Schæff.* 2.—*Bull.* 50, *and* 524. 3.—*Bolt.* 67. 2.—*Tourn.* 327. *A. B. C.*—*Fl. dan.* 833.—*Batſch.* 28.

Ag. ſtipitatus, pileo convexo, lamellis baſi mucrone dentatis. Linn. —*Gills* pale yellow, angular at the baſe. *Pileus* deeper yellow, ſmooth, edge bent inwards. *Fl. ſuec.* 1206. See Ag. pſittacinus; note at the bottom of the page.

Gills fixed ſlightly to the ſtem, paler or deeper yellow, thick, fleſhy, not numerous, irregular, 4 or 8 in a ſet, long ones about 30 or 40.

Pileus conical, ſattiny, glutinous, bright red or orange, or pale yellow; browniſh, and even black with age; the colour remaining longeſt at the edge; ſhape irregular, ſometimes boſſed, edge always uneven, ſoon cracking and turning up, ¾ to 1½ inch from the baſe to the apex of the cone. *Fleſh* yellow, tender, brittle.

Stem hollow, pithy, pale yellow to deep ſaffron, ſtreaked, often flatted or twiſted, ſplitting, 1 to 3 inches high, ¼ to ½ inch diameter.

Ag. dentatus. Linn. Huds.—But I ſtill retain the name given it by Mr. Lightfoot, becauſe we have long been accuſtomed to aſſociate it with the plant, and it is alſo more obviouſly characteriſtic than that of Linnæus.

Edgbaſton Park, plentiful on a graſſy bank ſloping to the Eaſt.—Bungay Common, frequent. Mr. Woodward.—Covers upland paſtures and downs, near Bath. In woods and long graſs the ſtem grows taller. Mr. Stackhouse. June—Oct.

Var. 1. Pileus deep crimſon. Stem carmine colour. Gills 4 in a ſet.

Schæff. 2. *f.* 6, *nearly repreſents it.*

Smaller

Smaller than the preceding. Amongſt ſhort graſs and moſs—Very ſmall, gloſſy, highly coloured; growing on commons amongſt ſhort graſs. Woolhope, Herefordſhire, Clowance, Cornwall. Mr. STACKHOUSE.

VAR. 2. Gills few, pale green, whitiſh at the edges, 4 in a ſet, but irregular. Pileus green, changing to yellow brown, convex, boſſed, irregular. Stem green above, yellow below.

GILLS fixed, dilute green, pale yellowiſh brown, or whitiſh towards the edges, 4 in a ſet, but the ſmaller ſeries very irregular, ſometimes abſent, ſometimes 2 in a place; large ones about 30.

PILEUS convex, boſſed, irregular, border ſcored, turning up with age, green when young, changing to a varying mixture of browniſh yellow and green, 1 to 1¼ inch over.

STEM hollow, cylindrical, ſplitting, greeniſh upwards, yelloviſh below, 1½ inch high, thick as a raven quill.

The whole plant ſemi-tranſparent, and ſo ſlippery with ſlime that it is with difficulty retained between the fingers.

Edgbaſton Park, by the ſtews; not frequent. 21ſt Oct. 1790.

VAR. 3. Gills looſe, pinky, fleſhy, 4 in a ſet. Pileus pale pink. Stem pinky.

GILLS looſe, pinky, fleſhy, brittle, not numerous, in contact with, but not fixed to the ſtem, 4 in a ſet.

PILEUS pale pink, conical, pointed, edge irregular and uneven, almoſt claſping the ſtem when young, turning up with age and cracking entirely through to the very center; height of the cone 1 inch. *Fleſh* thin, pinky.

STEM hollow, white with a pinky tinge, cylindrical, but flatted, often cracking through its whole length on one or both ſides, and the edges at the cracks turning in ſo as to give the appearance of two ſtems united together; 1 to 2 inches high, ¼ inch diameter.

Paſtures, Edgbaſton, by the long ſtew in the Park, on land ſloping to the North Eaſt. 14th Oct.

VAR. 4. Gills looſe, yellow, 2, 3, or 4 in a ſet. Pileus and ſtem pinky.

The ſmalleſt Gills are very minute, and frequently wanting.

On the ſame ſloping ground as the preceding. 22d July.

The Ag. aurantius is the ſtrongeſt exception I have met with to the preſent mode of arranging the Genus. The two laſt varieties undoubtedly belong to the aurantius, any of the plates of which will give a good idea of them, if the colours, and the circumſtances of the Gills were changed. Perhaps the Gills in an earlier ſtage of growth may be found attached to the ſtem; and as to colour, this ſpecies is unuſually ſportive. To prevent embarraſſment I ſhall introduce them as exceptions to the general diſtribution; and what ſyſtem exiſts without its exceptions?

* AGA'RICUS *cera'ceus*. (WULFEN.)—Gills pale yellow, in pairs. Pileus deep yellow, hemiſpherical, ſmooth. Stem deep yellow, cylindrical.— *bees-wax*

Wulfen, in Jacq. miſc. 15. 2.

Ag. ſtipitatus; pileo hemiſpherico ſtipiteque ſubfiſtuloſo flavis; lamellis aquoſe luteolis. WULFEN.

GILLS fixed? not crowded, broad.

PILEUS convex, dry, deep yellow, ¾ of an inch over.

STEM with a fine hollow, nearly as thick as a gooſe quill, full one inch high, 2-10ths diameter. *Fleſh* of the pileus and ſtem yellow. JACQ. miſc. ii. p. 105, not 25, as by miſtake in Dickſon.

Dry paſtures. Sept. DICKS. faſc. 1. p. 16.

AGA'RICUS *pſittaci'nus*. (SCHÆFF.)—Gills bright yellow, 4 in a ſet. Pileus fine green and rich buff, bluntly conical. Stem green.— *paroquet*

Schæff. 301.—*Battar.* 21. *E.*

GILLS fixed ſlightly to the ſtem, full bright yellow, 4 in a ſet; long Gills about 21; edge ſcolloped, but without any particular pointed tooth at the baſe.†

PILEUS bluntly conical, rich buff, border when young beautifully green, viſcid, paler with age and the edge turning up, ¾ of an inch over.

STEM hollow, beautifully green, ſmooth, ſlimy, tender, ſplitting, 1 inch high, thick as a crow quill. When old the green on the upper part remains, whilſt the lower becomes yellow.

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† Schæffer, and after him, our Engliſh authors, have ſuppoſed this to be the Ag. *dentatus* of Linnæus, but it can hardly be ſo, as he points out the following particulars in his plant which do not exiſt in ours: — "*Gills* with a "tooth at the baſe, ſeparating from the ſtem; their edges broad, ſub-villoſe "or mealy. *Pileus* convex, border bent in. *Stem* ſcored towards the top; "growing in cluſters." — My opinion is well ſupported by the following remarks of Major Velley: — "Schæffer is of opinion that his Ag. *pſittacinus* and Ag. *coccineus*, t. 301—and 302, are both deſcribed by Linnæus under the trivial name *dentatus*. If this is the fact, has not the great naturaliſt formed his ſpecific character with leſs preciſion than uſual, ſince there are other Agarics more obviouſly dentated than the above, particularly than the *coccineus* 302, which in Schæffer's table does not ſhew the indented character? I have frequently found the Ag. *coccineus* of Schæffer, but do not recollect to have obſerved the teeth, and if they were obſervable, in an Agaric ſo remarkable in its colour and habit, they might have been noticed in the general deſcription of the plant, while its more obvious diſtinctions ſhould have furniſhed its trivial name."

The

The whole plant viſcid and ſlimy. The green colour here ſeems, as in the Ag. *æruginoſus*, to be contained in the ſlimy coating, which being laid on a golden ground acquires ſuch an unuſual brilliancy. It wears or waſhes from the central and projecting part of the pileus and then ſhews the yellow ground, but it remains longeſt on the upper part of the ſtem, becauſe there protected by the ſhelter the pileus affords.

Pool dam, and the Red Rock plantation in Edgbaſton Park. Aug. Sept.

watery *AGA'RICUS *aquo'ſus*. (BOLT.)—Gills pale yellow, 4 in a ſet. Pileus pale yellow, conical, ſmooth. Stem duſky white.—

Bolt. 71. 1.

GILLS fixed by a fine point.

PILEUS glutinous, bell-ſhaped, pale duſky yellow, hardly ½ inch high.

STEM hollow, duſky white, 1 inch high, thickneſs of a thin crow quill. Whole plant tender, watery, pellucid, wrapped in a ſoft downy covering when very young. BOLTON.

Not Ag. aquoſus of Hudſon, which is a variety of the Ag. congregatus.

On rotten wood, under the ſprinklings of the ſtream of Elm Cragg Well at Bellbank, near Bingley. April.

****** GILLS buff.

fleſh-coloured AGA'RICUS *ſubcar'neus*. (BATSCH.)—Gills buff, 4 in a ſet. Pileus convex, pinky buff, viſcid. Stem buff, poliſhed.—

Batſch. 100.—*Schæff.* 63.

GILLS fixed, buff, 4 in a ſet; long ones about 22.

PILEUS deep pinky buff, convex, viſcid, near ½ inch diameter.

STEM hollow, the hollow nearly filled with pith, buff, viſcid, poliſhed, cylindrical, about 1 inch high, thinner than a crow quill.

RAY ſyn. p. 8. n. 38.

Edgbaſton Park. 7th Nov. 1790.

ſcurfyſtemm'd AGA'RICUS *ſcario'ſus*. Gills deep buff, 4 in a ſet. Pileus convex, buff. Stem whitiſh above, dark brown and ſcaly below. Ring permanent, pale brown.—

GILLS fixed, numerous, deep buff, 4 in a ſet.

PILEUS convex, rather boſſed, pale buff, but the center and a circle round the border darker; ½ to 1½ inch over. *Fleſh* white.

STEM

STEM hollow, cylindrical, thick as a raven's quill, 1½ to 2 inches high, nearly white above the ring, dark brown below it; the dark part apparently rough with ſhort, brown, ſlender, riſing ſcales. *Ring* fixed near the Gills, forming a beautiful pale brown fringe round the ſtem. Reſembles the Ag. nigripes. Bull. 344, but the Gills in our plant are darker, and that has no ring.

Plantations, Edgbaſton. 31ſt Oct. 1790.

AGA'RICUS *flocco'ſus*. (SCHÆFF.)—Gills buff, 2 or 4 in a ſet. Pileus convex, bright bay, tufted with dark hair. Stem brown, bay, tufted. — *ſhaggy*

Curt. 264, *very large.—Schæff.* 61, *ſize of our plants.—Bull.* 266, *Gills much darker than ours.—Batſch.* 30.—*(not Battar. t.* 8. *H. for that plant is entirely white.)*

GILLS fixed, buff, turning browniſh, numerous, 2 or 4 in a ſet, but irregular.

PILEUS bright bay, ſet with dark triangular pencils of hair, convex when young, boſſed in middle age, concave when old, edge turned down, 1½ to 2 inches over.

STEM hollow, brown, fibrous or hairy, 2 inches high, nearly as thick as a gooſe quill. *Curtain* fugacious. *Ring* permanent.

This is with us a very rare ſpecies, and my opportunities of examining it have been inſufficient to allow me to clear up ſome difficulties which preſent themſelves on inſpecting the figures and deſcriptions of authors. I beg therefore to be underſtood as ſpeaking with great uncertainty, and wiſh it may challenge the attention of thoſe botaniſts who have better opportunities of examining it. I have two ſorts of ſhaggy Agarics now before me, the one juſt now deſcribed, gathered at Edgbaſton, another ſort ſent from Herefordſhire by Mr. Stackhouſe. The firſt ſort has a regular fine hollow in the ſtem, and fixed Gills, the ſecond has a ſolid ſtem and decurrent Gills. The habit and general appearance are the ſame in both, but theſe eſſential differences in ſtructure require them to be kept apart. Schæff. 61. is a very exact repreſentation of the plants found here, and Schæff. 80. agrees well with the Herefordſhire plant. Schæffer was aware that they were not the ſame plants, and has attempted, though not ſucceſsfully, to point out ſome diſcriminating differences. Curtis 264, and Bull. 266, agree with the Edgbaſton plant in ſtructure, but they are both much larger, and the colour of the Gills is too dark in M. Bulliard's plate. The Herefordſhire plant has been extremely well drawn by Mr. Stackhouſe, it is alſo indifferenly figured Fl. dan. 491, of a ſmall ſize. For what more I know reſpecting it ſee Ag. piloſus.

* * * * * * * GILLS

******* Gills green.

cluſtered AGA'RICUS *faſcicula'ris.* (Huds.)—Gills brown green, 4 in a ſet. Pileus yellow and orange. Stem yellow.—

Schæff. 49. 1. 2. 3.—*Bolt.* 29.—*J. B.* iii. 835.

Gills fixed, pale brown with a greeniſh caſt, changing to dark olive brown; very numerous.

Pileus more or leſs conical, yellow, clothy, brown orange in the center, which is ſometimes rather boſſed, 1½ to 2 inches over.

Stem hollow, yellow, crooked, ſometimes compreſſed and appearing as if double; 2 to 4 inches high, thick as a crow or a gooſe quill.

Curtain very pale yellow, fugacious, leaving no durable mark on the ſtem.

In the larger and more expanded plants ſome of the long gills ſeparate from the ſtem; and then they ceaſe to grow, for they appear leſs broad than thoſe which remain attached to it. This circumſtance however compels us to count 8 in a ſet.

Ray Syn. p. 9. n. 50.

Gills very cloſely ſet and in maturity changing from a yellowiſh green to a duſky colour, diſcharging a duſt when ſhaken. Major Velley.—When held againſt the light with the gills towards the eye and gently turned round, a beautiful golden metallic luſtre ſeems to play upon the under ſurface.

In cluſters; ſometimes apparently diſtant from any rotten wood, but moſt conſtantly found under trees, or near the bottom of poſts.

June—Auguſt—April.

Var. 1. Gills yellow to greeniſh, 8 in a ſet, regular. Stem with a ring.

Batſch. 29.

Gills fixed, pale, yellowiſh, ſoon changing to greeniſh, regularly 8 in a ſet.

Pileus at firſt conical, the edge turned in, then nearly flat, full buff, harſh to the touch, 1¼ to 1½ inch over.

Stem hollow, pale yellow, ſilky, ſeldom quite ſtraight, 1½ to 2¾ inches high, near ¼ inch diameter, marked very near the top with a ring.

Curtain woolly, pale greeniſh yellow, not very fugacious, part adhering to the edge of the pileus and part to the top of the ſtem forming a ring.

In cluſters, Edgbaſton, at the bottom of poſts, or other half rotten wood. Oct.

Var.

Var. 2. Gills watery white changing to grey green. Pileus irregularly convex, boſſed.

Fl. dan. 890.—*Battar.* 22. *D. G. N.*—*Bolt.* 5.—*Schæff.* 49. 6. 7.

Gills fixed ſlightly to the top of the ſtem by a minute claw, watery white with a faint tinge of grey, which ſoon attains a greeniſh caſt; numerous, 4 or 8 in a ſet.

Pileus irregularly convex, boſſed but flatted at the top, ſides depreſſed in places, edge turned in, deep buff approaching to brown orange, paler at the ſides, cracking, 2 to 5 inches over.

Fleſh yellow white.

Stem hollow, with a looſe pith, yellow white or buff above, brown at the bottom, ſmooth, crooked, cylindrical, ſplitting, 3 to 4 inches long, and near ½ inch diameter.

Curtain woolly, greeniſh white, fringing the edge of the pileus but not leaving a ring on the ſtem.

Ray Syn. p. 10. n. 57.

Single or in cluſters, not uncommon, but the root always attached to rotten wood. Nov.—April.

AGA'RICUS *aurantius.* Gills fixed, few, pale green, whitiſh at the edges, 4 in a ſet, but irregular. Pileus green, changing to yellow brown, convex, boſſed, irregular. Stem green above, yellow below.— *orange*

Ag. aurantius. Var. 2. ſee page 368.

* * * * * * * * Gills grey.

AGA'RICUS *mo'rus.* Gills grey to blue black, 4 or 8 in a ſet. Pileus conical, pale brown, apex cheſnut. Stem dark mulberry, cylindrical.— *mulberry*

Gills fixed, grey to blue black, numerous, 4 or 8 in a ſet.

Pileus pale brown, conical, ſcored, apex reddiſh, poliſhed, ½ inch from the edge to the point of the cone.

Stem hollow, cylindrical, dark blackiſh red or mulberry colour, ſtiff, juicy, 3 to 4 inches high, thick as a crow quill.

Nearly allied to Ag. *fimi-putris*, of which it may perhaps be only a variety, and the differences occaſioned by the wet ſituation in which this was found.

In wet gravel where no graſs grows, by the ſide of the Horſe Stew, in Edgbaſton Park, under a large oak tree. Oct. 1791.

AGA'RICUS *corona'tus.* Gills grey, 4 or 8 in a ſet. Pileus browniſh grey, bluntly conical. Stem whitiſh brown, cylindrical.— *crowned*

Gills

Gills fixed, grey, 4 or 8 in a ſet, ſometimes not reaching the edge of the pileus.

Pileus bluntly conical, flattiſh at the top, whitiſh brown or grey, darker in the center, ſkin round the ſummit of the cone cracking in a circle, and the cracked edge turning up forms a kind of cap upon the pileus; 1 to 1½ inch over.

Stem hollow, whitiſh brown, cylindrical, crooked towards the root, ſplitting, 3 to 4 inches high, thick as a raven quill. *Ring* white.

Edgbaſton Grove, not common. April.

Var. 1. Gills grey, edged with white, 8 in a ſet. Pileus ſemi-globular, mealy, white. Stem mealy, white.

Gills fixed, grey edged with white, black when old.

Pileus entirely covered with a white meal, ſemi-globular, edge cooping in, 2 inches over.

Stem with a fine hollow, ſmooth, covered with a white powder, perfectly cylindrical, 6 inches high, thicker than a raven's quill; cottony at the baſe.

When the mealy powder is rubbed off the pileus or ſtem, the ſkin appears of a pale livid brown colour. Sometimes it is found in a glutinous ſtate, and then it reſembles the following ſpecies, but the want of horizontality in the edge of the Gills diſtinguiſhes it.

Paſtures, Edgbaſton, but rare. July.

hemiſpherical AGA'RICUS *ſemi-globa'tus.* (Batsch.)—Gills grey, mottled, 4 or 8 in a ſet. Pileus greeniſh yellow, ſemi-globular. Stem pale buff.—

Curt. 194.—*Batſch.* 110.—*J. B.* iii. 847, *the uppermoſt figure good.*—*Schæff.* 203, *probably deſigned for it.*

Gills fixed, when very young whitiſh, but always grey at the edges, ſoon becoming entirely grey, and mottled, changing to chocolate with age; 4 in a ſet in the ſmaller, 8 in the larger plants; long ones about 20 or 24, their edges forming an horizontal line from the ſtem to the edge of the pileus.

Pileus nearly ſemi-globular, yellow, or buff, to browniſh; very glutinous, wrinkled with age, ¾ of an inch over.

Stem hollow, the perforation very fine and ſometimes partly filled with a white pith; very pale buff, ſmooth, clammy, 2 to 3 inches high, thick as a crow quill.

Curtain tough, fugacious, leaving a ring near the top of the ſtem, which does not continue long.

Ray Syn. p. 7. n. 37.

Hudſon p. 619. n. 33, but not Schæff. 210. Ray's deſcription is very expreſſive. Major Velley.

The whole plant is ſometimes not larger than a large pin. Mr. Curtis had named it *glutinouſs*, but that term had before been applied

plied to more than one ſpecies, and the name given it by Batſch, which I have therefore preferred, is very expreſſive.

Paſtures, graſs plats, not uncommon. July—Oct.

* VAR. 1. STEM livid.

Paſtures, in cow dung. Sept. Oct. Mr. HUDSON.

VAR. 2. Gills brown grey, 4 in a ſet, long ones 16 or 18. Pileus pale buff, ſmooth, viſcid, ſemi-globular, but pointed in the center. Stem white, viſcid.

Batſch. 5.—*Schæff.* 236, *(the figures agree better than the deſcription.)*

PILEUS about ½ an inch over.

STEM hollow, ſilky, nearly white, 3 inches high, thinner than a crow quill.

Edgbaſton Plantations. 31ſt Oct. 1790.

§ VI. HOLLOW and LOOSE.

* GILLS white.

AGA'RICUS *collaria'tus*. Gills white, uniform, fixed to a collar ſurrounding the ſtem. Pileus white, ſkinny, dimpled. Stem white above, black below.— *collared*

Bull. 64.—*Bolt.* 32.—*Schæff.* 239.

GILLS looſe, from the ſtem, but fixed to a band or collar ſurrounding the top of the ſtem, but at ſome diſtance from it; white, yellowiſh brown with age, uniform, from 17 to 20.

PILEUS white, convex, dimpled, ribbed at the ſides, thin, ſkinny, 1-8th to 3-8ths of an inch over.

STEM hollow, ſcored, white above, dark mouſe or almoſt black below, 1 to 3 inches long, not thicker than a pin.

It does not appear by Mr. Bolton's figure or deſcription whether the Gills are fixed to a collar, or to the ſtem, but be that as it may, ours is certainly the plant of M. Bulliard, quoted above, though he ſays the ſtem is ſolid, and calls it the Ag. *androſaceus* of Linnæus, but that is a very different plant, and had he given a diſſected drawing he would not have found the ſtem ſolid. The Gills are careleſsly done both by Schæffer and Bolton, and in the latter the dimple in the center of the pileus is not expreſſed. The plant at firſt is entirely white, but it dries, remains a long time, and gradually changes its colour to a yellow brown, the ſtem becoming quite black.

Ag. androſaceus of Schæffer; Hudſon, Lightfoot, Relhan, &c. but not of Linnæus, Scopoli, or Haller. See Ag. androſaceus.

Growing upon dry ſticks in hedge bottoms; not uncommon. Auguſt.

AGA-

tall AGA'RICUS *pro'cerus.* (Scop.)—Gills white, uniform, fixed to a collar. Pileus a broad cone, boſſed, white brown, ſcaly. Stem ſcaly. Ring looſe.—

Curt. iv. 39.—*Fl. dan.* 772.—*Schæff.* 23. 22.—*Bull.* 78.—*Sterb.* 7. *A.*—*Cluſ.* 274. 18.

Gills looſe from the ſtem but fixed to a collar ſurrounding its top, white, uniform, numerous.

Pileus a broad blunt cone, more or leſs boſſed, whitiſh, but covered with brown tawny ſcurfy ſcales, from 3 to 7 inches over. *Fleſh* white, ſpongy.

Stem hollow, a fine pith in the cavity, gently tapering upwards, whitiſh brown, ſcaly, 6 or 8 inches high, ½ inch diameter.

Curtain white within, brown on the outſide, fixed to the edge of the pileus and to a looſe ring upon the ſtem. *Ring* cartilaginous, looſe, permanent. *Root* a pear-ſhaped bulb.

A ſhort intervening Gill is ſometimes found in the larger ſpecimens. This plant when preſerved in pickle is very liable to run into the vinous fermentation.—Its ſize and large horizontal ring diſtinguiſh it. The white Gills change with age to ſtraw-colour and dark brown. Mr. Stackhouse.

Ray ſyn. p. 3. n. 10.—p. 4. n. 18.—p. 4. n. 17.

Ag. procerus. Huds.

Hedge banks, and dry paſtures, not ucommon. Sept.

Var. 1. Gills white, fixed to a collar, 2 or 4 in a ſet, irregular. Pileus conical, boſſed, ſmooth, pale brown. Stem whitiſh brown, ſmooth above.

Gills looſe from the ſtem, but fixed to a collar ſurrounding its top, white, numerous, very irregular, ſometimes 2 long ones together, ſometimes a long and a ſhort one alternately, moſt frequently 4 in a ſet, long Gills often ſplit at the end next to the edge of the pileus.

Pileus convex, boſſed, rich pale tawny brown, edge turned in, ſmooth and ſoft like glove-leather, wrinkled, the outer ſkin cracking with age, 4 to 6 inches over.

Stem hollow, the cavity looſely filled with a fine ſilky pith, nearly cylindrical, cruſted below, browner and flecked above, 6 or 7 inches high, 1-3d of an inch diameter. *Curtain* white. *Ring* looſe on the ſtem, permanent. *Root* a pear-ſhaped bulb.

By the large clump of beeches, Edgbaſton Park. 25th Oct.

Var. 2. Gills white, fixed to a collar, in pairs, irregular. Pileus conical, boſſed, tufted, pale brown. Stem ſmooth, white.

Bolt. 23.

Gills looſe from the ſtem, but fixed to a collar ſurrounding its top, ſalmon coloured when young, white when full grown, very numerous, moſtly in pairs, but ſometimes 3 or 4 in a ſet.

Pileus globular when young, then conical, laſtly flat, but boſſed, whitiſh brown, covered with tufts of a darker ſhade, 3 to 5 inches over. *Fleſh* white, thin.

Stem hollow, looſely filled with fine ſilky pith, cylindrical, white, ſmooth, ſometimes downy, 4 to 6 inches high, 3-8ths of an inch diameter. *Curtain* white. *Ring* looſe, ſtrong, permanent. *Root* a bulb, becoming flat with age like an onion, and then the lower part of the ſtem becomes angular.

In the large plantation of beeches, Edgbaſton Park. Sept.

Var. 3. Gills white, fixed to a collar, 2 or 4 in a ſet. Pileus convex, rather boſſed, brown upon a white ground. Stem white, ſmooth, tapering upwards. Ring looſe.

Schæff. 18. 19.

Gills looſe from the ſtem but fixed to a collar ſurrounding its top; white, 4 in a ſet, ſometimes in pairs; edges finely ſerrated with white glandular or perhaps ſeminal ſubſtances.

Pileus convex, boſſed, delicate tawny brown, the outer ſkin tearing as the plant enlarges, it ſhews a dead white ground freckled over with ſcurf or ſcales of the firſt brown colour, 2 to 3 inches over. *Fleſh* white.

Stem hollow, with a very fine, looſe, ſilky pith; white, tapering upwards, ſplitting, 3 inches high, 3-8ths diameter.

Curtain white, fringing the edge of the pileus when it tears. *Ring* permanent, fixed to the ſtem. *Root* but little larger than the ſtem.

Ray ſyn. p. 3. n. 11.

This is a very beautiful plant, approaching in much of its ſtructure ſo cloſely to the Ag. procerus that it muſt be conſidered only as a variety of it, nor do I think the ſmooth white ſtem, or the more tender and fixed Ring ſufficient to eſtabliſh it as a ſpecies; yet it muſt be confeſſed that its habit and its ſmaller ſize impreſs one with a different idea.

Edgbaſton Park, under large Spaniſh cheſnut trees. 4th Sept.

AGA'RICUS *ſacchara'tus.* Gills white, moſtly uniform, narrow. Pileus brown, flat. Stem white, cylindrical. — *ſugared*

Gills looſe, not reaching the ſtem, white, not numerous, uniform, but ſometimes 1 and very rarely 2 ſhort Gills intervening.

Pileus pale brown, flat, darker in the center, border ſcored, ſemitranſparent, ſurface ſprinkled with remnants of a white wrapper like candied ſugar, moſt frequent about the center, 2 inches over.

Stem hollow, white, cylindrical, 3 inches long, thick as a large goose quill.

Edgbaston Park, on the bank opposite the long stew.

extinguisher * AGA'RICUS *extincto'rius*. (Linn.)—Gills white, numerous, uniform. Pileus white, bluntly conical. Stem white.—

Bolt. 24.—*Bull.* 437. 1. 2.—*Battar.* 27. *H.*

Ag. stipitatus, pileo companiformi albido lacero, lamellis niveis, stipite sub-bulboso subulato nudo. Linn.

Gills very white. *Pileus* convex, somewhat conical but expanding, dead white, surface scaly and torn, apex smooth. *Stem* dead white, thickest at the base, tapering, without a ring. *Fl. suec.*

Gills uniform, thin, pure white, changing to pale brown.

Pileus shaped like an extinguisher, but blunt at the top and uneven at the edge, white, changing to pale brown; surface smooth at first, with age streaked or scaly, 1 or 1½ inch from the edge to the apex.

Stem hollow, with a downy cotton within, smooth, cylindrical, 3 to 5 inches high, 3-10ths diameter. Bolton.—*Gills* uniform, snow-white changing to blackish brown. *Pileus* flapping down the stem, yellowish or dirty white. *Stem* long, hollow, swelling at the base. Mr. Stackhouse.

Amongst sand in moist and shady situations, but rare about Halifax.—[I found it once at Woolhope, Herefordsh. Mr. Stackhouse.]

slender * AGA'RICUS *ten'uis*. (Bolt.)—Gills white, few, thin, 4 in a set. Pileus conical to bell-shaped, pellucid, watery white, top browniſh mouse. Stem white, pellucid, tall, thin.—

Bull. 320.—*Bolt.* 37.

Gills loose, very thin and delicate, pellucid.

Pileus conical changing to bell-shaped, smooth, striated when it begins to decay, ½ inch to 1 inch over.

Stem hollow, white, pellucid, very tender and brittle, 6 inches high, thick as a small packthread. Bolton.—*Gills* few, thin, transparent. *Pileus* mouse-coloured, thin, striated. *Stem* very long, slender, brittle, woolly near the base. Mr. Stackhouse.—M. Bulliard observes that the stem is often 4 inches high before the pileus is larger than a pin's head.

Amongst moss and grass in shady woods at the roots of large trees. Summer and Autumn.—[Woods near Woolhope, Herefordshire. Mr. Stackhouse.]

AGA'RICUS *melea'gris*. Gills white, numerous, 4 in a ſet. Pileus convex, boſſed, pale brown, mottled with red and green. Stem ſmooth, pale brown.— *chequered*

GILLS looſe, white, very numerous, 4 in a ſet.

PILEUS convex, boſſed, pale brown, mottled with dull greeniſh and a few reddiſh ſpots, edge turned down; 1½ to 2 inches over.

STEM hollow, ſmooth, very pale brown, 2 to 3 inches long, thicker than a ſwan's quill. *Ring* permanent, looſe on the ſtem. *Root* a bulb.

The want of a collar at the top of the ſtem ſeparates this from the Ag. procerus, and the preſence of a permanent ring diſtinguiſhes it from the Ag. clypeolarius.

Edgbaſton Park, not frequent. 11th Oct. 1790.

AGA'RICUS *clypeola'rius*. (BULL.)—Gills white, tender, 4 in a ſet, but irregular. Pileus convex, ſcurfy, mottled. Stem cylindrical.— *mottled*

Bull. 405.—*Bolt.* 7.

GILLS looſe, pure white, numerous, tender and delicate, 4 in a ſet, but not very regular; in the larger ſpecimens running cloſe up to the ſtem, though not united to it.

PILEUS convex, expanded, center rich red brown, white towards the border but beautifully mottled with red ſcurfy freckles, 2½ inches over. *Fleſh* white, very tender.

STEM hollow, red buff below, paler upwards, tender, ſplitting, cylindrical but rather tapering upwards, 3 inches high, ½ inch diameter.

Pileus at firſt ſharply conical, ſmooth, white, mottled, boſs darker. *Stem* brown, ſplitting into threads. *Gills* eaſily ſeparating, fleſhy, few. *Curtain* white, delicate, fugacious, but leaving ſome marks on the ſtem and on the edge of the pileus. It has a diſagreeable ſmell.

Woods near Bath. Powick, near Worceſter; paſtures, Woolhope, Herefordſhire. Mr. STACKHOUSE.—In a pine grove, Ditchingham, Norfolk. Mr. WOODWARD; who ſent me a very accurate deſcription of it before he knew that it had been found elſewhere. Edgbaſton Park, amongſt graſs, very rare. Auguſt.

VAR. 1. Stem quite white. Ring white, delicate.

Bull. 506. 2. *L.*

This is a very ſmall variety, the pileus hardly ¼ of an inch over, the ſtem 1 inch high, the ſize of a crow quill.

Cherry orchard, Edgbaſton, a ſingle ſpecimen. Sept.

*VAR. 2. Gills white, crowded, 4 or 8 in a ſet. Pileus convex, dirty white, with reddiſh blotches and center reddiſh. Stem dirty white, blotched.

Curt. 315.—*Buxb. hall. row the laſt, marked p.* 122.

GILLS looſe, very numerous, narrow, white, changing to a reddiſh brown.

PILEUS convex, nearly flat with age, whitiſh but blotched with ruſty red and almoſt wholly red in the center, ſmooth, 1 to 3 inches over. *Fleſh* white, firm, twice as thick as the Gills are broad.

STEM hollow, clumſy, often ſpotted with ruſty red, faintly ſtriated, cylindrical, but tapering at the root, 3 inches high or more, 3-8ths diameter. *Fleſh* whitiſh, firm, in thickneſs equal to the diameter of the hollow. *Curtis* Fl. Lond. v. 53.

Growing ſingly or in cluſters, in Lord Mansfield's Pine Wood, Hampſtead. [Pine Grove, Kirby. Mr. WOODWARD.] Sept. 22d.

buff-headed AGA'RICUS *ochra'ceus.* (SCHÆFF.)—Gills white, 4 in a ſet. Pileus buff, convex, ſemi-tranſparent. Stem buffy white.—

Schæff. 255.

GILLS looſe, white, 4 in a ſet, but the ſmaller ſeries irregular.

PILEUS buff, convex, ſemi-tranſparent, flat with age and uneven at the edge, 1 to 2½ inches over.

STEM hollow, buffy white, ſemi-tranſparent, cylindrical but crooked where the root begins, 1 to 2 inches high, thick as a crow quill.

Subſtance tender, ſo as not eaſily to be gathered from amongſt the graſs without breaking. In Schæffer's fig. referred to above, the Gills are too highly coloured, and do not agree with his deſcription.

Edgbaſton Park. Sept. 1791.

VAR. 1. Gills 8 in a ſet. Pileus red brown, darker at the edge. Stem white.

The Iſland, Edgbaſton pool. 2nd June, 1792.

VAR. 2. Gills yelloviſh watery white, 8 in a ſet. Pileus rich red brown, pale at the edge, cracking. Stem colour of the pileus.

The ſtem ſo diſpoſed to ſplit that it is hardly poſſible to gather it entire. The Gills leave an impreſſion at the top of the ſtem, as if they had been fixed to it before the expanſion of the pileus.

Under an oak by the ſide of the great pool; Edgbaſton. 21ſt June, 1792.

brown and white * AGA'RICUS *fuſco-al'bus.* Gills browniſh white, broad, regularly 4 in a ſet. Pileus ſemi-globular, brown, ſmooth. Stem brown.—

GILLS not reaching the ſtem but forming a channel round it, white or brown white.

PILEU

Pileus dark brown cheſnut, hemiſpherical, turning up with age, ſmooth, ſometimes rather boſſed, without fleſh, ¾ to 1 inch over, quite black when old.

Stem hollow, ſize of a ſtraw, ½ inch high, dark brown, thicker at the top where it joins the pileus. Deſcription and drawing from Mr. Stackhouse.

In ſhort graſs, on commons in Herefordſhire, not unfrequent, but I do not find it noticed. Mr. Stackhouse.

* AGA'RICUS *piluliformis*. (Bull.)—Gills white, in pairs. Pileus brown, globular. Stem white.— *pill*

Bull. 112.

Gills looſe, white, narrow.

Pileus brown, quite globular when young, rather leſs ſo when full grown, from the ſize of a large pin's head, to that of a large pea.

Stem hollow, white, cylindrical, ¼ to 1 inch high, thick as a ſwallow's quill. Bulliard.

At the foot of trees, and under ſlabs of wood; ſome ſcarcely larger than a large pin. Mr. Stackhouse.

AGA'RICUS *turbinatus*. (Ray.)—Gills yellowiſh white, in pairs. Pileus yellow brown, cylindrical, ſcored. Stem white.— *throng ing*

Schæff. 66, *(but larger than our ſpecimens.)*

Gills looſe, † ſemi-tranſparent, yellowiſh white, in pairs.

Pileus nearly cylindrical, reaching half way down the ſtem, blunt at the top, ſcored at the ſides, uneven at the edge; yellow brown, deeper and richer brown at the top, white at the edge; when freſh gathered, beautifully froſted over with diſtinct globular pellucid particles.

Stem hollow, white, ſcurfy when young, ſcored at full growth, about 1 inch high, thick as a gooſe quill.

In cluſters, of ſlow growth. On the ſtump of a tree ſawn off horizontally. Nov.

† But preſſed cloſe to the ſtem, and even adhering to it by their edges in a young ſtate ſo as not to be ſeparated without injury to the one or the other, but ſtill they are neither decurrent nor fixed, the former implying an extenſion of the baſe of the Gill down along the ſtem, the latter an adheſion of the baſe or ſhoulder to the ſtem. This adhefion of the edge of the Gill to the ſtem takes place only in ſuch as have almoſt a cylindrical pileus, and it ſeparates as the plant arrives at maturity.

VAR. 1. Gills quite white, much ſmaller than the preceding and growing on the ground.

GILLS looſe, but the edges making impreſſions on the ſtem, white, ſemi-tranſparent, yellowiſh with age, in pairs.

PILEUS cylindrical, or rather egg-ſhaped, extending half way down the ſtem, brown yellow, ſcored, froſted, uneven at the edge, 2-8ths to 3-8ths of an inch high.

STEM hollow, white, woolly, ½ to 1 inch high, thinner than a crow quill.

RAY *Syn.* p. 10. n. 53. Ag. fuliginoſus. HUDS. 620.

Schæff. 308, very much reſembles it, except in having yellowiſh Gills and a ſolid ſtem.—*Bull.* 94, not unlike it, but 4 times as large, and the Gills 4 in a ſet.

Gills turning black with age. *Pileus* oblong, never turned up, not deſcribed ſince the time of RAY.

Several hundred growing together, on ſhort graſs under trees. Pear tree Walk, Woolhope, Herefordſhire. Mr. STACKHOUSE.—Not uncommon. Mr. WOODW.—Amongſt ſhort graſs, plentiful, Edgbaſton Park. 6th Aug.

* VAR. 2. Gills white, brown when old, 4 in a ſet. Pileus rich olive. Stem brown.

Bolt. 154.

GILLS looſe, white, turning brown with age, tough, flexible, diſtant, 4 in a ſet.

PILEUS conical, rich olive, darkeſt at the top, edge ſcored and turning up when old, 1½ inch to the apex.

STEM hollow, duſky reddiſh brown, tough, 2 inches high, thick as a raven quill. BOLTON.

On ſtumps of fallen trees. Oct.

VAR. 3. Gills browniſh white, changing to reddiſh brown; uniform. Pileus ſcored, light brown, yellowiſh and ſmooth at top.

GILLS looſe, numerous, uniform, watery browniſh white, changing to reddiſh brown and then to dark chocolate.

PILEUS light brown, deeply ſcored, ſmooth and yellow brown at the top, cylindrical, edge irregular, rather turned in, ¼ inch high, broad at the top.

STEM hollow, white, 1½ inch high, thick as a raven's quill.

Paſture land, Edgbaſton, in cluſters. July.

congregated AGA'RICUS *congrega'tus.* (BULL.)—Gills white, with grey edges, 2 or 4 in a ſet. Pileus conical, brown buff, ſides furrowed. Stem white, ſmooth.—

Bolt. 54, *the ſmall figures.*—*Bull.* 94, *too ſmooth and too yellow for our ſpecimens.*

GILLS

Gills looſe, white, edges grey, ſpangled, 2 or 4 in a ſet; black with age, and deliqueſcent.

Pileus conical, brown buff, apex a darker brown, ſurface ſtrongly ſtreaked, or rather furrowed, edge very uneven, bending in towards the ſtem, 1½ to 2 inches over.

Stem hollow, white, ſcurfy when young, ſplitting, 2 to 3 inches high, ¼ inch diameter.

M. Bulliard juſtly obſerves that the edge of the pileus hangs down lower on one ſide than on the other.

In cluſters, on the milking bank, Edgbaſton, in a hollow where an elm had been fallen. 31ſt Oct. The crops repeated in the ſame ſeaſon. In a ſimilar ſituation in the Grove. 14th April. Poultry yard. Aug.

* Var. 1. Gills white, black on the edges, wholly black when older, 4 in a ſet. Pileus and ſtem downy.

Bolt. 156.—*Bull.* 138.—*Mich.* 73. 3.

Gills looſe, white on the ſides, but with a black powder at the edges, which ſoon extends over the whole ſurface.

Pileus grey, downy; but this covering tearing as it expands remains in patches on the ſurface, which then appears elſewhere white and ſtriated; conical, blunt, 1¼ inch high.

Stem hollow, covered like the pileus with a lead coloured down, cylindrical, 2½ inches high, thick as a raven's quill. Bolton.

Amongſt wet moſs on a peat bog near Ogden Kirk.

AGA'RICUS *luteo-al'bus.* (Bolt.)—Gills white, 4 in a ſet. Pileus yellow, conical, ſcored. Stem pale yellow.— *briſtleſtemm'd*

Bull. 260.—*Bolt.* 38. 1, *(excluding his other ſynonyms.)*

Gills looſe, broad.

Pileus ¼ of an inch from the edge to the top of the cone.

Stem 1 inch high, thick as a briſtle. Bolt.—*Gills* very thin, broad next to the ſtem. *Pileus* bright yellow, thin, brittle, ſplitting, gloſſy. *Stem* hollow, delicate. Mr. Stackhouse.—Mr. Bolton tells me that the ſtem of his plant is ſolid, and if ſo it muſt be ſeparated from the figure of Bulliard and the deſcription of Mr. Stackhouſe, and may poſſibly prove to be a variety of the Ag. clavus.

Common in woods near Halifax. [Short graſs at Powick near Worceſter. Mr. Stackhouse.]

** Gills brown.

AGA'RICUS *co'lus.* Gills red cheſnut. Pileus a tall ſlender cone, white. Stem white.— *diſtaff*

Gills

GILLS looſe; uniform? deep Spaniſh ſnuff colour, numerous, tender.

PILEUS dead white, near an inch high, almoſt cylindrical, not more than ¼ of an inch diameter, except at the edge which flanches out a little; rounded at the apex.

STEM with a fine hollow, white, cylindrical, 3 inches high, thick as a crow quill.

This is a very beautiful and rare ſpecies; none of the figures at all reſemble it. Its texture tender, ſoon cruſhing and becoming watery when gathered.

A ſingle ſpecimen on the graſs plats at Tettenhall, Staffordſhire, June; and another in a paſture field, Edgbaſton. Auguſt, 1792.

dark-brown * AGA'RICUS *atro-ru'ſus*. (SCHÆFF.)—Gills reddiſh brown, few, 4 in a ſet. Pileus dark brown, convex, center conical. Stem brown, cylindrical, elaſtic.—

Schæff. 234.—*Bolt.* 51. 1.

GILLS looſe.

PILEUS ½ to ¾ inch diameter.

STEM hollow, 1½ to 2½ inches high, nearly as thick as a crow quill. BOLTON.

Dry barren paſtures, amongſt Moſs. Spring.

cottonſtemm'd AGA'RICUS *xylo'pes*. Gills brown, numerous, 4 in a ſet; claws white. Pileus buff, flattiſh. Stem long.—

GILLS looſe, dead brown, numerous, tender, watery, thin, termination next the ſtem not in contact with it, white.

PILEUS full buff, nearly flat, central part wrinkled and ſomewhat boſſed, thin at the edge, turning watery on the leaſt bruiſe; 1 to 2 inches over. *Fleſh* thin, woolly or ſpongy, brown white.

STEM hollow, the cavity fine, with more or leſs of a white pith; browniſh white, rarely ſtraight, cylindrical, but thicker and ſcored under the pileus, and again much thicker towards the root, ſize of a raven to that of a ſmall gooſe quill, 4 to 5 inches high.

Ring thin, ragged, brown white. *Root* a large irregular ſhaped maſs, covered with white cottony ſubſtance which extends alſo about ½ an inch up the ſtem.

Fir plantations at Bar. 28th June, 1792.

Spaniſh-nut * AGA'RICUS *nu'ceus*. (BOLT.)—Gills pale brown, broad, thin, 4 in a ſet. Pileus red brown, edge lobed and turned inwards. Stem white.—

Bolt.

Bolt. 70.—*Bull.* 535. 1.—*Schæff.*

GILLS looſe, gently waved at the edges.

PILEUS ſize and colour of a Spaniſh nut, dimpled at the top, dry, pliable, ſmooth, ſilky, ſhining; the margin lobed and very much rolled in, ſo as to touch the ſtem or even to paſs by it, the oppoſite lobes preſſing againſt, or croſſing each other.

STEM hollow, dead white, thin, tender, ſplitting, 4 inches high, thick as a crow quill. BOLTON.

Among young firs, abundantly. In dry and barren ſoils amongſt Heath and furze buſhes. Oct.

* AGA'RICUS *corruga'tus.* Gills pale brown, 4 in a ſet. Pileus brown, convex, crumpled. Stem white, crooked, tapering upwards.— *crumpled*

GILLS looſe, ſhallow, wide apart.

PILEUS brown, clothy to the touch, ſkinny, crumpled, and twiſted, 1½ inch over.

STEM hollow, white, crooked, tapering upwards, ſeveral united together at the bottom. Deſcription and drawing from Mr. STACKHOUSE.

* AGA'RICUS *cuſpida'tus.* (BOLT.)—Gills duſky brown, 4 in a ſet. Pileus cinnamon colour, acutely conical. Stem browniſh, cylindrical, ſmooth.— *pointed*

Bolt. 66. 2.

GILLS looſe, pale duſky brown, thin, pliable, 4 in a ſet.

PILEUS reddiſh brown, acutely conical, ſilky, ſmooth, even at the edge, 1 inch to the apex.

STEM hollow, the perforation fine; browniſh, cylindrical, ſmooth, hard, readily ſplits, 4 or 5 inches high. BOLTON.

Where weeds or charcoal have been burnt.

* AGA'RICUS *mutab'ilis.* (SCHÆFF.)—Gills tawny, 4 in a ſet. Pileus brown orange, convex, boſſed. Stem red brown below, and ſcurfy, white above the ring. *variable*

Schæff. 9.

GILLS looſe, yellow brown, 4 in a ſet.

PILEUS brown orange, or dull yellow, but changeable; 1 to 1½ inch over.

STEM hollow, cylindrical, red brown and ſcaly below, the ſcales pointing upwards, whitiſh above the ring.

Curtain thready. *Ring* permanent, imperfect. SCHÆFFER.—*Gills* not ſo cloſely ſet as in the Ag. faſcicularis, and alſo different in colour. *Pileus*, its varying form ſeems effected by the cloſe and faſciculated

fasciculated growth, which in their tender state obtrude one upon another, as in the fascicularis. Major VELLEY.—Schæffer's tab. 9, and also his description good. *Pileus* very much varying in shape and often deformed. Mr. WOODWARD.—I had referred Mr. Hudson's mutabilis to the *Ag. velutipes* not having seen any thing like Schæffer's pl. 9, and supposing, as there was no good figure of the velutipes extant when Mr. Hudson published his work, that he referred to this of Schæffer as the best representation he could find; however on his authority and that of Mr. Relhan, supported by Mr. Woodward and Major Velley, I determined to introduce this plant in its proper place; but I must observe that Schæffer's t. 9, contains 2 distinct plants, one with a hollow and one with a solid stem; one with a permanent ring and one without.

On decaying wood, common. Mr. WOODWARD.

bordered * AGA'RICUS *margina'tus*. (BATSCH.)—Gills ochrey, few, 4 in a set. Pileus ochrey, convex, membranaceous at the edge. Stem reddish brown, scored.—

Batsch. 207.

GILLS loose, rusty iron colour, 4 in a set, large ones about 30.

PILEUS rust colour, leathery, smooth, nearly semi-globular when young, but the edge cooped in and the top flatted, the border thin, and extending below the Gills; 1½ to 2 inches over.

STEM hollow, 2 or 2½ inches high, thick as a duck's quill, pale reddish brown, scored, rather scurfy. *Ring* cottony, reddish brown. BATSCH.

Found by Mr. Relhan in Madingley Wood, and White Wood near Gamlingay.

*** GILLS red.

orange AGA'RICUS *auran'tius*. Gills loose, pinky, fleshy, 4 in a set. Pileus and stem pinky.—

VAR. 3. Ag. aurantius, see page 368.

cylindrical AGA'RICUS *cylin'dricus*. Gills pinky, uniform. Pileus white, cylindrical, scaly. Stem cylindrical, white.

Fl. dan. 834.—*Curt.* ii. 16.—*Schmid. ic. t.* 10.—*Schæff.* 46. 47. 8.—*Bolt.* 44.

GILLS loose, distant from the top of the stem, numerous, white when very young, when in perfection pinky; changing to black and dissolving, uniform.

PILEUS cylindrical, white, covered with scurfy scales, splitting at the edge, 4 inches high, 1½ or 2 inches diameter. *Flesh* none.

STEM

Stem hollow, pithy, white, cylindrical, tender, 4 to 8 inches high, ½ inch diameter.

Curtain ſmall, white, connecting the pileus to the ſtem in its younger ſtate, and leaving a *Ring* on the ſtem, looſe, permanent.

This beautiful but fugacious plant has been extremely well figured by the authors cited above, but our beſt Engliſh botaniſts have fallen into an error in ſuppoſing it to be the Ag. fimetarius of Linnæus, as will be evident to thoſe who will take the trouble to compare the figures or the deſcriptions. That has white Gills, changing to black, this fine pink or roſe red; that is egg-ſhaped, this cylindrical, that grows on dunghills, this in open paſture land.

A young plant put into water and covered with a glaſs bell, grew three inches and a quarter in twelve hours. In decay it deliqueſces in form of a dark-coloured fluid hanging in drops on the Gills. The outer white coat of the pileus is ſometimes ſo thin as to allow the inner pinky colour to appear through it, eſpecially towards the bottom of the pileus.

Amongſt ruſhes, 17th Sept.—In an open paſture field, 2d May.

Var. 1. Gills fine red. Pileus white and downy, ſoon changing to red. Ring permanent.

Bolt. 142.

Gills looſe, uniform, carnation coloured.

Pileus at firſt white, downy; this white down diſappears and the ſurface becomes ſtriated and of a livid carnation colour; cylindrical when young, bluntly conical and turning up with age, 1½ inch from the edge to the apex.

Stem hollow, white, ſplitting, tapering upwards, 3 inches high, 3-8ths diameter. *Ring* near the bottom of the ſtem, white, permanent. Bolton. — It principally differs from the preceding in the abraſion of the white downy outward coat of the pileus, which may be merely accidental, and then from the extreme tenuity of the inner membrane the red of the Gills becomes viſible.

On new dunghills, but rare.—In the garden field at Edgbaſton. 24th July.

* Var. 2. Gills pinky, uniform. Pileus light brown, mottled, conical.

Bolt. 26.—*Battar.* 26. *D. E. F.*

Gills looſe, diſtant from the top of the ſtem, pale pinky grey, uniform, numerous, broad, diſſolving.

Pileus conical, very uneven at the edge, light brown, ſet with fragments of a very pale grey brown cottony wrapper, which incloſed the pileus only in its young ſtate; 1½ inch from the edge to the apex.

Stem

Stem hollow, white, ſhining, 3 or 4 inches high, thick as a gooſe quill, often remaining after the decay of the pileus. Bolton. —Common in dry vaults, poor cottages, and under carpets on ground floors. Mr. Bolton's figure and deſcription very juſt, but he has delineated one of the largeſt of the ſpecies. Mr. Stackhouse.

In cluſters on wet rotten wood in cellars and damp kitchens.

tattered AGA'RICUS *appendicula'tus.* (Bull.) — Gills brown red to chocolate, 4 in a ſet. Pileus pale buff, conical. Stem white.—

Schæff. 17.—*Bull.* 392. *B.*

Gills looſe, fleſh red, liver colour or chocolate with age, numerous, 4 in a ſet.

Pileus a broad blunt cone, pale buff, center darker; the whole darker with age, ſemi-tranſparent, 1½ inch over, cracking at the edge and becoming ſtriated as it expands.

Stem hollow, white, ſplitting, cylindrical, ſmooth, 1½ to 2 inches long, thick as a raven's quill.

Curtain white, delicate, fugacious, hanging in fragments at the edge of the pileus, but ſoon vaniſhing after it is gathered.

Growing in large patches, very much crowded together, ſo that it is rare to ſee the pileus uniformly expanded. Diſſolves into a brown watery fluid. Bulliard's figure is a good repreſentation of our plant, but larger, and the Gills rather too much of a ſalmon colour. Schæff. 237, to which he refers, is ſurely a different ſpecies.

Cherry Orchard, Edgbaſton. 27th Aug. 1791.

weeping AGA'RICUS *lacrymabun'dus.* (Bull.)—Gills dull red, broad, numerous, 2 or 4 in a ſet. Pileus dirty brown, conical, woolly. Stem hollow, dirty white.—

Bull. 525. 3.

Gills looſe, dirty browniſh red, liver coloured with age, cloſe ſet, broad, ſpeckled with black when old, exſuding ſpontaneouſly a thin milky fluid, which when concreted forms the black ſpecks.

Pileus dirty brown, bluntly conical, flat and boſſed when old, woolly, without fleſh except at the top, edge turned in, 1½ inch from the edge to the top.

Stem hollow, dirty white, or paler brown than the pileus, 2 to 3 inches high, 2-8ths to 3-8th diameter; ſplitting.

Curtain white, cobweb-like, many of its threads extending from the ſtem to the edge of the pileus. *Juice* like thin milk; not acrid. Specimen, deſcription, and drawing from Mr. Stackhouse.

Common

Common in the woods in Herefordſhire, and ſometimes in the open paſtures.

AGA'RICUS *reticula'tus*. Gills pale fleſh-colour, moſtly in pairs. Pileus convex, brown, with net-work on the center. Stem watery white. — *net-work*

GILLS looſe, in contact but not connected with the ſtem, pale whitiſh fleſh colour, moderately numerous, in pairs, with ſometimes one of a third ſeries intervening.

PILEUS brown, center darker, convex, nearly flat when full grown, its central part covered with a kind of net-work riſing conſiderably above the ſurface, ½ to ¾ of an inch over.

STEM hollow, watery white, ſcored, 1 inch high, thinner than a crow quill.

The net-work is of a firm cartilaginous texture, rather a darker brown than the reſt of the pileus, and remaining perfect after the other parts of the plant are decayed and diſſolved.

Edgbaſton Pool Dam, very ſcarce. 6th Aug. 1791.

**** GILLS buff.

* AGA'RICUS *dryophyl'lus*. (BULL.)—Gills pale brown buff, broad, few, 4 in a ſet. Pileus dead whitiſh colour, nearly flat. Stem white, gently tapering upwards. *ſpreading*

Bolt. 6.—*Bull.* 434, *(with ſeveral variations in the colour of the ſtem and the pileus.)*

GILLS looſe, faint duſky fleſh-colour, ſoft, pliable, tender.

PILEUS convex, nearly flat when fully expanded, tender, watery, thin, 4 or 5 inches diameter.

STEM hollow, ſhining, gradually tapering upwards, ſometimes twiſting, ſplitting into fibres, ſurface irregular, 5 inches high, near ½ an inch diameter. BOLTON.—*Pileus* when fully grown ſinking in the center.

Ag. repaſidus. BOLT.

Shady woods. Aug. Sept.

VAR. 1. Gills pale brown buff, numerous, irregular. Pileus dark brown, flat, velvety. Stem pale brown, ſhort.

Bull. 434. *D.*

GILLS looſe, pale brown or buff, numerous, irregular.

PILEUS dark brown, flat, center depreſſed, ſurface velvety to the touch.

STEM hollow, pale brown, ſhort. *Juice* milky, mild. Specimen and deſcription from Mr. STACKHOUSE.

Coplar wood, near Hereford. Sept. 1791.

***** GILLS

***** Gills yellow.

renting * AGA'RICUS *fla'vus.* Gills pale yellow, 2 or 4 in a ſet. Pileus pale yellow, conical, dry, thin, tearing. Stem compreſſed, twiſting.—

Bolt. 68.

Gills looſe, irregular, very broad towards the outer end, waved at the edges, tender, primroſe colour.

Pileus conical, pale yellow, dry, ſmooth, ſilky, ſhining, tearing as it expands in ſeveral places nearly to the center; 3 to 4 inches over.

Stem hollow, ſplitting, often compreſſed, furrowed and twiſted, 3 or 4 inches high, ½ inch diameter. Bolton.

Mr. Bolton's name *(laceratus)* has been before applied to a different ſpecies, vide Scopoli n. 1513.

Dry banks and barren paſtures about Halifax, but rare. Bolt.

ſtarry * AGA'RICUS *eques'tris.* (Linn.)—Gills brimſtone yellow, 4 in a ſet. Pileus pale yellow, convex. Stem yellow, cylindrical.—

Bolt. 65. *(not Schæff.* 79.*)*

Ag. ſtipitatus, pileo pallido; diſco luteo, lamellis ſulphureis. Fl. ſuec. 1219. *Gills* pale ſulphur colour, which readily diſtinguiſhes it. *Pileus* convex, pale, center yellow and marked with a tawny ſtar. *Stem* naked, ſmooth. Linn.

Gills looſe, numerous, thin, pliable, pale yellow with a tinge of green.

Pileus convex, conical when young, pale yellowiſh buff, darker at the apex, 1 to 1½ inch over. In decay, the edge of the pileus changes to a duſky hue, which gradually radiates towards the middle, forming the appearance of a yellow ſtar of 10 or 12 rays in the center.

Stem hollow, readily ſplitting, pale duſky yellow, 4 inches high, thick as a raven quill. Bolton.—Major Velley juſtly obſerves that it cannot be the 35th of Ray, which is the aurantius. *Gills* yellowiſh, unequal, diſtant. *Pileus* pale yellow, ſmooth, convex, gelatinous, tranſparent, ſhewing the inſertion of the gills in a ſtarry form round the apex, and the ſpot formed by the inſertion of the ſtem forms the center of the ſtar. *Stem* long, tender, hollow. Mr. Stackhouse.

Meadows and paſtures. July, Auguſt.

* Var. 1. Broader and ſhorter. Curtain evaneſcent.

Bolt. 149, *(but none of his ſynonyms.)*

Gills

GILLS looſe, yellow, white when young, dirty brown when old, 4 in a ſet, thin, tender.

PILEUS yellow, convex, often ſomewhat raiſed in the center, tearing at the edge when old, near 3 inches over.

STEM hollow, yellow throughout, ſmooth, ſplitting, 2 inches high, thick as a gooſe quill. BOLTON.

On dunghills after rain, June, July.—Paſtures near Bath. In Herefordſhire and Worceſterſhire. Mr. STACKHOUSE.

AGA'RICUS *veluti'pes*. (CURT.)—Gills pale yellow, 8 in a ſet. Pileus brown orange, nearly flat. Stem yellow above, velvety and dark brown below.— *velvet-ſtalk'd*

Curt. iv. 40.—*Bull.* 344.—*Vaill.* 12. 8. 9.

GILLS looſe, in contact with though adhering to the ſtem, pale yellow, 8 in a ſet.

PILEUS gently convex, nearly flat with age, brown orange, glutinous, irregular in ſhape, often curled at the edge, 1 to 3 inches over. *Fleſh* yellowiſh.

STEM hollow, dark brown and velvety below, top yellowiſh, thickeſt downwards, ſplitting, yellow within, 2 to 4 inches high, 2-8ths to 3-8ths of an inch in diameter.

Ray *Syn.* p. 9. n. 51.

This has been confounded with Ag. fulcatus, well figured in Bolton 135, but though very much alike at firſt ſight, the ſtructure is ſufficiently different to prevent their being again miſtaken.

Ag. mutabilis. HUDS. 615. 22, and RELH. 936, ſeem to be this plant, but on their authority, ſupported by that of Mr. Woodward, the mutabilis of Schæffer is introduced in its proper place.

Varies very much in ſize; grows in cluſters, many from 1 root, generally attached to rotten wood. Oct.—April, not uncommon.

AGA'RICUS *auran'tius*. Gills looſe, yellow, 2, 3, or 4 in a ſet. Pileus and Stem pinky.— *orange*

Var. 4. Ag. aurantius. See page 368.

****** GILLS grey.

AGA'RICUS *ova'tus*. (SCOP.)—Gills ſilvery grey, uniform. Pileus grey brown, plaited. Stem white.— *puckered*

Curt. 101.—*Schæff.* 67. 68.—*Vaill.* xii. 10. 11.

GILLS looſe, in contact with but not fixed to the ſtem; ſilvery grey changing to black, very numerous, and ſo cloſe ſet that it is hardly practicable to ſeparate them, uniform, deliqueſcent.

PILEUS brown white or ſilvery grey, egg-ſhaped to bell-ſhaped, with remarkable plaits or folds extending from the edge nearly to the center, from 3 to 4 inches over.

STEM

STEM hollow, white, brown at the baſe, tender, cylindrical, 3 to 4 inches high, 2-8ths to 3-8ths diameter, thickeſt downwards.

Mr. Curtis has diſcovered that the ſides of the Gills are connected to each other by very fine filaments, which accounts as he obſerves for the difficulty of ſeparating them. I ſuſpect Mr. Lightfoot's Ag. plicatus to be a different plant, for he deſcribes the Gills as terminating ſhort of the ſtem and leaving a vacant circle round the top of it.

Ag. ſtriatus. HUDS. 617.

At the bottom of a gate poſt. 15th Oct.

ſhort-lived AGA'RICUS *momenta'neus*. (BULL.) — Gills grey, uniform. Pileus grey, ſtreaked, center brown orange. Stem white.—

Fl. dan. 832. 2.—*Bull.* 128.—*Battar.* 27. *D.*—*Bolt.* 39. *C.*—*Mich.* 75. 6.

When mature, it is perfectly horizontal on its ſtem. Mr. STACKHOUSE.

GILLS looſe, in contact with, but not connected with the ſtem, grey, very fine and ſlender, uniform, ſometimes ſplit.

PILEUS conical, ſoon becoming flat, grey, center brown orange, extremely thin, nearly tranſparent, edge uneven, 1 to 1½ inch over.

STEM hollow, beautifully white, cylindrical but rather tapering upwards, brittle, ſplitting, a little ſcurfy, 2 to 3 inches high, thinner than a crow quill.

The Gills and the Pileus appear as if compoſed of the ſame ſubſtance, but as it is found ſolitary, its duration very ſhort, and its texture extremely tender, it is not eaſy to examine it fully. The ſtreaks on the pileus are only apparent, and cauſed by the upper edges of the Gills being ſeen through the very thin membranaceous pileus.

Paſtures after continued gentle rain. Oct.—April.

VAR. 1. Gills grey, uniform. Pileus beautifully white as if powdered. Stem white.

GILLS looſe, uniform, grey, ſoon diſſolving into a black liquor.

PILEUS white as the fineſt meal, thin as tiſſue paper, very ſoon ſhrivelling, 1¼ inch from the edge to the apex.

STEM hollow, tapering upwards, pure white, 5 inches high, thick as a raven's quill.

On dunghills. June 30th.

* VAR. 2. Gills grey, uniform. Pileus tawny brown, ſtrongly ſtreaked. Stem white.

Bolt. 54.—*Schæff.* 201.

GILLS looſe, uniform, grey, changing to black.

PILEUS

PILEUS egg-ſhaped, edge turned in, ſcolloped, reddiſh brown, 2½ inches from the edge to the apex.

STEM hollow, white, 5 or 6 inches high, ¼ inch diameter. BOLTON.

Single or in cluſters; on the ground or on rotten wood.

AGA'RICUS *cine'reus* (SCHÆFF.) — Gills grey, uniform, not reaching the ſtem. Pileus grey, ſtreaked, center brown. Stem white, tapering upwards.— *ſhort-lived*

Bolt. 20.—*Schæff.* 100 *and* 216.

GILLS terminating at ſome diſtance from the ſtem; tender, watery.

PILEUS grey, plaited, conical, 1½ to 2½ inches over.

STEM hollow, white, ſmooth, ſwelling below and tapering upwards like the flowering ſtem of an onion; 6 to 8 inches high, 1-8th to 3-8ths diameter. BOLTON.

Ag. fimetarius. HUDS. 617.

Rich meadows, or dunghills. June.

VAR. 1. Gills 4 in a ſet. Pileus ſemi-tranſparent. Stem in appearance horny.

Bull. 88.

GILLS ending ſhort of the ſtem, ſo as to form a channel round it, grey, broad, numerous.

PILEUS ſemi-tranſparent, ſmooth, but ſometimes deeply furrowed, brown, flapping or hanging down at firſt, then turning up, tearing at the edge and then from its elaſtic nature the ſegments turning up.

STEM hollow, horny. This is well deſcribed by Bulliard, and though of ſuch apparent firmneſs it diſſolves into an inky fluid, the ſtem often ſurviving the deſtruction of the pileus. Mr. STACKHOUSE.

Meadows and road ſides, Powick near Worceſter. Mr. STACKHOUSE.

VAR. 2. Gills grey, in pairs, extremely narrow, not reaching the ſtem. Pileus grey, conical, plaited, buff in the center, patched with white pieces of the wrapper. Stem white, tapering upwards.

GILLS looſe, terminating at ſome diſtance from the ſtem, dark grey, very narrow, 2 or 4 in a ſet.

PILEUS grey, with white blotches, the remains of the wrapper, conical, 1½ inch high, center light brown, or buff.

STEM hollow, white, covered with a beautifully white ſoft down, very tender, ſplitting, tapering upward, thick at the root, 7 inches high, thick as a duck's quill.

bell * AGA'RICUS *campanula'tus.* (LINN.)—Gills pale grey, uniform. Pileus mouſe grey, conical, blunt. Stem grey, ſmooth.—

Vaill. xii. 1. 2.—*(Mich.* 75. 9, *referred to in Fl. Suec. is wholly white. This reference is rejected in Sp. Fl. but our Engliſh botaniſts ſuppoſing the fig.* 9 *the only error, quote Mich.* 75. 6, *but this is Ag. momentaneus, a much ſmaller plant, has a pileus flat when expanded, very thin, ſcored on each ſide, and a white woolly ſtem.—Schæff.* 31, *has a bright yellow ſtem, and Gills* 4 *in a ſet.)—Schæff.* 211, *is, I believe, to be reckoned a campanulatus, varying chiefly in the Gills being drawn in pairs, but whoever has attended to the inaccuracy with which the Gills are drawn in theſe plates, will hardly think that an objection.*

Ag. ſtipitatus, pileo companulato ſtriato pellucido, lamellis adſcendentibus, ſtipite nudo. Sp. Pl.

Gills aſcending, grey or black. (Gills white. Fl. lapp. 507. Fl. Suec. ed. i. 1054.)—*Pileus* grey, viſcid, membranaceus, conical bell-ſhaped. *Stem* naked, ſmooth, very long. LINN.—*Gills* uniform, white or very pale grey. *Pileus* mouſe grey, conical, blunt, ¾ inch high. *Stem* hollow, grey, poliſhed, 2 inches high, thick as a ſwallow's quill. VAILL. Par. p. 71.

Meadows, paſtures, and woods. Sept. Oct.

* VAR. 1. Gills whitiſh, grey turning black, uniform. Pileus yellow brown, bell-ſhaped, blunt. Stem greyiſh.

Schæff. 6.—*Cluſ.* ii. 293, *bottom at the left hand, repr. in Dod.* 482. 1, *and Lob. ic.* ii. 272, *and Ger. em.* 1580. 2; *cop. in Park.* 1321. 19.—*Vaill.* 12. 5. 6, *another variety, with Gills in pairs.—(Battar.* 27. *E. Mr. Woodward.)*

GILLS looſe, uniform, pale grey and then black with duſt.

PILEUS at firſt hemiſpherical, the edge tearing with age, ½ inch from the edge to the top.

STEM hollow, greyiſh, roughiſh, 1 to 1½ inch high, thick as a raven quill. SCHÆFF. HUDS.—Very common on decaying ſtumps. *Pileus* ſhaped exactly like a woman's thimble, with a ſmall dimple at the top; yellow brown, ſtreaked with black. *Gills* ſooty grey, that is, powdered with black. Mr. WOODWARD.

Ag. aquoſus. HUDS. 619.

On wet rotten wood. Aug.—Oct.

half-egg AGA'RICUS *ſemi-ova'tus.* Gills brown grey to black, 2 or 4 in a ſet. Pileus light brown, ſmooth, half-egg-ſhaped. Stem cylindrical, white.—

Bolt. 53.—*Bull.* 164, *varies a little from it, in having no appearance of a ring, and the pileus being ſcored.*

GILLS

GILLS looſe, in contact with but not united to the ſtem, moderately numerous, 4 in a ſet, brown grey changing to black and deliqueſcing.

PILEUS light brown, or like ivory, poliſhed, ſmooth, wrinkled when old like waſh leather, bluntly conical, or rather the ſhape of the broader end of an egg, 1½ inch from the edge to the apex, and as much acroſs at the baſe. *Fleſh* thin, white.

STEM hollow, white, ſmooth, cylindrical, pithy within, bulbous at the baſe, 5 inches high, thick as a gooſe quill. Hollow ſometimes very fine, and without pith.

Curtain evaneſcent. *Ring* ſeldom perfect.

Cow paſtures and dunghills. June—Sept.

VAR. 1. Gills, grey, mottled, 2 or 4 in a ſet. Pileus pale brown, ſmooth, ſhape of half an egg. Stem browniſh, cylindrical.

Bull. 58.

GILLS looſe, grey, mottled, turning black, broad, moſtly in pairs, numerous, deliqueſcent, ſhorter Gills narrow in proportion to the long ones, and often not extending to the edge of the pileus.

PILEUS browniſh white, ſmooth, ſattiny, exactly the ſhape and about the ſize of the broader half of a hen's egg cut acroſs its longer axis.

STEM hollow, cylindrical, browniſh white, 2 to 3 inches high, thick as a crow quill.

Edgbaſton Park. 7th Nov. 1790.

AGA'RICUS *plicat'ilis*. (CURTIS.)—Gills grey, in pairs. Pileus aſh coloured, center brown yellow. Stem white.— *plaited*

Bull. 542. *f.* 1.—*Curt.* 200.—*Batſch* 2.—*Battar* 27. *B. C.*—(*not Fl. dan.* 832. 2.)

GILLS looſe, not reaching to the ſtem, grey or purpliſh grey, changing to black, ſemi-tranſparent, deliqueſcing, not numerous, in pairs.

PILEUS grey with a tinge of yellow, center brown yellow, conical, flat when expanded, edge at firſt turned down, with age turning up, ſides ſemi-tranſparent, plaited, center with a ſmall boſs ſunk in a hollow, ½ to 1 inch over, center underneath white, fleſhy.

STEM hollow, white, ſmooth, cylindrical, feeble, 2 to 3 inches high, thick as a crow quill.

Curtain very evaneſcent, its remains ſometimes fringing the edge of the pileus.

Ray *Syn.* p. 8. n. 42.

This has been confounded with the Ag. *momentaneus*, but the Gills being in pairs and their approach to the ſtem limited by a fleſhy circle in the center of the pileus on the under ſide, are at all times ſufficient to point out the difference.

Graſs plats and new mown fields. April—Oct.

furrowed AGA'RICUS *exara'tus*. Gills grey changing to black, in pairs. Pileus plaited and ſtriped.—

Bolt. 31.—*Bull.* 80.—*Schæff.* 32, *very nearly the plant.*

GILLS looſe, in pairs, grey changing to black.

PILEUS conical, afterwards expanding, ſmooth at firſt, when expanded ſcored and plaited, alternately brown and lead-coloured; 1½ inch over. It diſſolves the ſecond day into a brown liquor.

STEM hollow, whitiſh grey, 5 or 6 inches high, thick as a ſwallow's quill. *Curtain* evaneſcent, its remains only appearing on the ſtem whilſt very young. BOLTON.—*Pileus*, plaits regular. *Gills* alternate. Mr. STACKHOUSE.

Ag. campanulatus. β HUDS. RAY ſyn. 8. 41.

Meadows, plentiful. Sept. Oct.

belted *AGA'RICUS *cinc'tulus*. (BOLT.)—Gills dark blackiſh grey, 4 in a ſet. Pileus brown bay with darker belts, conical. Stem dirty brown.—

Bolt. 162, *(not Schæff.* 48.)

Gills looſe, duſky black, broad in the middle, tender, brittle. *Pileus* a broad blunt cone, red-deer colour, with a broad dark brown belt, which colour penetrates the whole ſubſtance; 2 to 3 inches over. *Stem* hollow, dull dirty brown, cylindrical, 3 inches high, nearly as thick as a gooſe quill. BOLTON.

On dunghills after rain. June, July.

Addition to Solid and Looſe.

(To follow Ag. palmatus, p. 341.)

domeſtic AGA'RICUS *canalicula'tus*. Gills nearly uniform, blackiſh brown. Pileus cylindrical, channelled, mouſe coloured, reddiſh at top. Stem white.—

GILLS looſe, dirty blackiſh brown, not all of a length, but without any ſhort ones.

PILEUS mouſe colour, ſmooth, reddiſh at the top, cylindrical, blunt, channelled, 3-8ths of an inch high, not quite ſo much in diameter.

STEM

Stem ſolid, white, tender and pulpy, ¾ of an inch high, thick as a ſwallow's quill.

Drawing and deſcription from Mr. Stackhouſe, who attended the progreſs of the growth in two of theſe plants, which ſprang up in a pot containing an orange tree, in the window of a parlour in Bath.

June, 1792.

I have ſince met with the ſame plant, growing in the ſoil in an unfiniſhed houſe in Birmingham. The parlour floor had been looſely layed with oak the preceding year, and on taking up the boards this plant made its appearance. July.

B. Stems lateral.

* Gills white.

AGA'RICUS *labyrinthifor'mis*. Gills white, variouſly anaſtomoſing. Pileus white, ſemi-circular, downy. Stem lateral, brown white, knotty.— *labyrinth*

Schæff. 43 *and* 44, *reſemble the plant, but the plate has more colour, and the ſtem is leſs knotty.*

Gills decurrent, white, variouſly anaſtomoſing, and though generally parallel ſometimes aſſuming the form of circular or angular cavities like the pores of a Boletus.

Pileus white, ſemi-circular, irregularly ſcolloped at the edge, covered with a ſhort woolly down; 2 to 4 inches over. *Fleſh* white.

Stem ſolid, 4 or 5 inches long, thickneſs of a little finger, tough, very knotty, dirty browniſh white.

Plantations Edgbaſton, on the ground amongſt moſs.

13th Sept. 1791.

AGA'RICUS *ſes'ſilis*. (Bulliard.)—Gills white to yellow brown, the long ones forked. Pileus milky white, flat, thin.— *ſeſſile*

Bull. 152.—*Jacq. fl.* 288.—*Bolt.* 72. 2.—*Pet. gaz.* 95. 8.

Wholly white, tender, brittle and pellucid; in figure nearly ſemi-circular, ſometimes with three lobes. Dickson.

Gills fixed, moſtly uniform, ſplitting, white, changing to browniſh yellow.

Pileus white as milk, flat, thin, half an inch over.

Stem, or more properly perhaps, Root, a blackiſh knobby ſubſtance.

Without a ſtem, growing by its ſide on rotten ſticks, in hedges, Buckinghamſhire. Mr. KNAPP.—From whom I firſt received ſpecimens in the year 1787.—At firſt wholly white; in time the Gills turn yellowiſh, and in a dry ſeaſon the whole plant dries and turns black before it decays. Mr. WOODWARD.—*Gills* ſet extremely fine, unequal in length, pale brown, narrow. *Pileus* ſnow white, powdery, convex when young, flat and the edge deflected with age; thin, tough. The whole ſprings from a kind of pedicle, and never exceeds the ſize of a ſixpence. Mr. STACKHOUSE.

Ag. niveus, JACQUIN, and DICKSON; but that name had been given before to a well eſtabliſhed ſpecies.

RAY ſyn. 22. n. 8.

On rotten ſticks, &c. under hedges, frequent.

oyſter AGA'RICUS *oſtrea'tus*. (JACQ.)—Gills white, irregular, long ones often branched at the baſe. Pileus brown, ſmooth, thin, and wrinkled at the edge.—

Curt. 216.—*Jacq. ſt.* 104.

GILLS fixed, whitiſh, of various lengths, the long ones often forked towards the baſe and anaſtomoſing.

PILEUS brown, ſmooth, rather ſhining, thin and wrinkled at the edge, from 1 to 8 inches broad, from 2 to 10 inches long or more. *Fleſh* white, tough.

STEM or rather root, ſolid, tough; penetrating deep into the crack of a beech tree, on which it grew.

Very much reſembling the ſhape of an oyſter, but hollowed underneath. It has a faint ſickly ſmell.

Mr. Woodward ſuſpects that this in a more advanced age may be the Ag. conchatus.

Near Ditchingham, Norfolk, on decayed aſh. Mr. WOODWARD.—In cluſters of 5 or 6 or more on willow, or elm. Mr. STACKHOUSE.—In a cleft in the bark of a large beech, near the root; Edgbaſton Park. Dec.—Jan.

VAR. 1. Proliferous.

Gills pure white, unequal. *Pileus* dark olive colour, leathery, thin; edge turned down. It riſes from a ſort of pedicle, from whence 1, 2, 3 or more miſhapen lobes proceed. From theſe lobes other little lobes come forth. Deſcription and drawing from Mr. STACKHOUSE.

Powick near Worceſter.

aſh * AGA'RICUS *dimidia'tus*. (SCHÆFF.)—Gills whitiſh, branched. Pileus red brown and grey, ſemi-circular, convex, ſcaly, fleſhy, turned in at the edge. Stem lateral, whitiſh.—

Schæff.

Schæff. 232.

GILLS fixed, only branched near the edge of the pileus.

PILEUS greyiſh with reddiſh brown ſcales, 1½ inch by 2½.

STEM ſolid, inverſely conical, fixed to the ſide of the pileus, full ⅝ inch long, and about as much in diameter.

This differs from the Ag. oſtreatus in being ſolitary, the pileus ſcaly, the Gills not decurrent, branched towards the margin only, and not anaſtomoſing at the baſe. It differs from the Ag. betulinus in being fleſhy, convex, the margins inflected, and having a ſhort ſtem. Mr. WOODWARD.

On an old aſh at Ditchingham. Mr. WOODWARD.

** GILLS brown.

AGA'RICUS *concha'tus.* (BULLIARD.)—Gills rich brown, extremely numerous and irregular. Pileus brown, ſhining, glutinous, the edge greatly turned in.— *ſhell*

Bull. 298.

GILLS decurrent, rich brown, very numerous, of every varying length from 7 inches to leſs than ½ inch.

PILEUS brown, rather ſhining and glutinous, convex, or concave, edge rolled inwards and downwards, 7 inches from the root to the outer edge, and nearly as much in breadth, but its various contractions make its ſhape very irregular. *Fleſh* thick, brown white.

STEM ſolid, ſhort, thick, brown.

Edgbaſton, on large trees. 3d Aug. 1791.

* AGA'RICUS *pla'nus.* (BOLT.) — Gills mouſe brown, thin, pliable, 4 in a ſet. Pileus mouſe brown, flat, with narrow ſtripes near the edge.— *flat*

Bolt. 72. 3.

GILLS fixed, 4 in a ſet, ſpear-ſhaped, ſoft and tender.

PILEUS ſmooth, ſemi-circular, browniſh mouſe colour, marked near the edge with 3 or 4 narrow concentric lines of a darker colour; waved at the edge, near 1 inch broad and ſomething more in width.

STEM ſolid, very ſhort, more properly perhaps to be conſidered as a root. BOLTON.

Bulliard 140, ſeems a variety of this.

Grows upright on the ground. Oct.

* AGA'RICUS *flabellifor'mis.* Gills yelloviſh brown, numerous. Pileus ſmooth, mealy, whitiſh. Stem ſhort, variably eccentric.— *fan*

Schæff.

Schæff. 208.

Gills decurrent, moſtly uniform, light yellowiſh brown.

Pileus ſmooth, tough, leathery, mealy, whitiſh, with deep ruſt coloured tints near the ſtem, ſet upon the ſtem like a leaf on its ſtalk, but ſometimes more central, and turned up like a funnel; 1 to 1½ inch over, the edge cut into irregular ſegments.

Stem ſolid, dark brown, ¼ to ½ inch high, thick as a crow quill.

Drawing and deſcription from Mr. Stackhouse.

Stumps of oaks, Aldenham, Salop. Hazle ſtumps, Powick, Worceſter; frequently growing in cluſters.

* Var. 1. Pileus about ¾ of a circle, 1 inch diameter, entire at the edge.

Bolt. 71. 2.—*Vaill.* 10. 7.—*Buxb.* v. 10. 1. 2.

Grows ſingle or tiled; of a dry leathery ſubſtance, a ſmooth ſurface, and either a white or pale yellowiſh colour.

Ag. ſemipetiolatus. Lightfoot, Ag. lateralis. Hudson.

On decayed branches of trees. Auguſt—Dec.

gelatinous * AGA'RICUS *mol'lis.* (Dickson.)—Gills ocher coloured, 8 in a ſet. Pileus whitiſh, convex, variouſly ſhaped, almoſt gelatinous.—

Schæff. 213.—*Batſch.* 38.

An inch or two in length, and half as much in breadth. Stem none.—The whole of this Agaric is very ſoft and tender, ſo much ſo as ſcarcely to bear handling. *Pileus* pale brown or dirty white, ſimple or variouſly lobed, waved or wrinkled. *Gills* pale yellow. Mr. Woodward.—*Stem*, or more properly perhaps *Root*, a ſmall dark coloured ſubſtance.

In the pine grove at Kirby, on Moſs.

fig AGA'RICUS *ficoi'des.* Gills watery brown, 4 or 8 in a ſet. Pileus light yellow brown, ſurface cracked. Stem ſhort, light brown, clothy.—

Batſch. 122.—*Bolt.* 72. *f.* 1.—*Bull.* 557. 1, *very like it.*

Gills fixed to the ſtem, watery brown, 4 to 8 in a ſet, connected by numerous croſs threads.

Pileus light yellowiſh brown, ſhewing in the cracks a darker ground, like the ſurface of a dried fig. from ¼ to ½ inch diameter, concave in the center, edge turned down; ſometimes rolled in. *Fleſh* whitiſh brown.

Stem lateral, ſhort, hardly ¼ inch long and half that in diameter; thickeſt upwards, light brown, clothy, ſolid. *Fleſh* dark reddiſh brown.

On

On an alder ſtump in conſiderable quantities adjoining to the weſt end of the large pool in Edgbaſton Park. Jan.

*** Gills buff.

AGA'RICUS *reniformis.* Gills pale buff, 4 in a ſet. Pileus bright brown, kidney-ſhaped, curled and waved at the edge.— *kidney ſhaped*

Bolt. 157.

Gills decurrent, tough, flexible, moderately broad, pale buff, darker when old, and ſometimes ſcolloped at the edges.

Pileus bright brown or red deer colour, darker towards the ſtem, tough, fleſhleſs, ſmooth like vellum, 1½ inch by 2½.

Stem ¼ of an inch in length, and as much in breadth. Bolton.

Not Schæff. 43, 44; nor Mich. 65. 1.

Grows on the ſide of old trees. Feb.

AGA'RICUS *fœtidus.* Gills yellowiſh, moſtly in pairs, broad, wide apart. Pileus dirty buff, convex, edge turned in.— *ſtinking*

Gills fixed, brown yellow, gelatinous, moſtly in pairs.

Pileus convex, dirty brown buff colour, edge much rolled in, ſurface greatly wrinkled when old, clammy, 1½ to 2½ inches over.

Stem hard, thick, blackiſh, not ½ inch long; it is perhaps rather a root than a ſtem.

This has not been deſcribed. Its form is rather elegant, ſwelling out from the root-like ſtem, into an oblong circular form, and raiſed like a cuſhion. The inſide is gelatinous and has an unpleaſant ſmell. Several plants, viz. from 1 to 7, grow from one root, tiled one over another. Specimen, drawing, and deſcription from Mr. Stackhouse.

On the bark of Willow trees, Powick, near Worceſter.

C. Stems none.

AGA'RICUS *applicatus.* Gills grey, 2 to 4 in a ſet, limber, diverging from the center of the plant. Pileus dark brown grey, rather convex.— *dark-grey*

Ag. acaulis inverſus orbicularis cinereo-nigricans, lamellis in centro contingentibus,, albido cæruleſcentibus. Dickson.

Batſch. t. 24. *f.* 125.

Plant ſitting, fixed by the top of the pileus, circular or oblong, 1 inch diameter.

On

On rotten wood. [Earſham, Norfolk. Mr. WOODWARD.—Willow trees, Powick, near Worceſter. Mr. STACKHOUSE.]

birch AGA'RICUS *bet'ulinus.* (LINN.) — Gills reddiſh yellow, to reddiſh brown, numerous, thin, very much branched. Pileus pale brown buff, cottony, irregularly ſemi-circular, —

Ag. acaulis, coriaceus villoſus, margine obtuſo, lamellis anaſtomoſantibus. *Fl. ſuec.*

Bull. 346, *the four lowermoſt figures.*—*Bull.* 394.—*Bolt.* 72. 1. —*Buxb.* v. 6.—*Fl. dan.* 776. 1.—*Bull.* 537, *ſeems to repreſent ſpecimens of this and alſo of the Ag. quercinus.*

GILLS in the younger plants 4 in a ſet, light brown, ſometimes branched.

PILEUS thin, when young fixed to the wood on which it grows, the Gills being uppermoſt; it then ſeparates from the wood and turns up, as is more particularly explained in ſpeaking of the Ag. quercinus. This, now upper part, is brown, or greeniſh, and woolly, conſiſting of concentric circles formed in ridges. It is apt to contain blades of graſs, or bits of ſticks, perforating its ſubſtance, which only could have happened in its ſoft ſtate.

STEM none. Rather leathery than fleſhy; belts variable, ſome more woolly.

Gills firm, ſeldom inoſculating. LINN. — *Pileus* always villoſe, and marked with concentric circles. *Gills* irregular, variouſly branched, but not forming lacunæ as in the Ag. quercinus. Bulliard 394 belongs to this ſpecies, and probably Schæff. 57. It has been confounded with the Ag. quercinus, by ſuppoſing it to be that ſpecies in its young ſtate. Mr. WOODWARD.—*Lobes* elliptical, tiled, from 1 to 2 inches over, cheſnut brown, in ſhades, with concentric wavy circles, very velvety to the touch, of a woody ſubſtance. *Gills* ſhallow, whitiſh, thickiſh, rigid, not emitting ſeeds when lying upon paper. In its young ſtate it is gelatinous like a Boletus. Mr. STACKHOUSE. — This ſpecies has been involved in much confuſion, chiefly ariſing from its different appearance at different ages. Mr. Stackhouſe ſent me a young plant in its gelatinous ſtate, which accorded, as he obſerved, with Fl. dan. 776. 1; the pileus being white and the Gills a rich deep ſaffron colour. Bulliard 346, the lower figures, ſeems the ſame plant when it has juſt attained its firm texture; the colour of the Gills darker and more of a purple caſt. The other figures repreſent the plant in its older ſtates, and of very different ſizes, the colour of the Gills being then a reddiſh brown, and the pileus ſomewhat paler but with wavy

circular ſtreaks of a darker hue. The figures in Bulliard 394 are very exact repreſentations of the ſpecimens now before me. It ſometimes grows to the ſize of one's hand, enlarging by proliferous offsets from the edges, each offset having its own proper central point to which its Gills are directed; but in this caſe the Gills in the center of the aggregate plant become extremely convoluted and irregularly branched.

Trunks and ſtumps of trees, not uncommon.

VAR. 1. Pileus green.

Bolt. 158.

Probably only old ſpecimens of the preceding, the green colour occaſioned by ſome other yet undetermined paraſitical vegetable.

On old pales. January.

AGA'RICUS *al'neus*. (LINN.)—Gills brown buff, in pairs. Pileus gently convex, ſemi-circular, velvety, brown grey.— *alder*

Ag. acaulis, lamellis bifidis, pulverulentis. LINN.

Schæff. 246.—*Bull.* 346, *the two upper figures to the right hand.* —*Weig. obſ.* 2. 6.—*Battar.* 38. *C. D.*—*Buxb.* v. 7. 1.

Plant ſitting, fixed by the edge of the pileus, woody, varying in the ſhades of its colours. *Gills* ſtrong, but the ſurface downy. *Pileus* velvety to the touch, from ½ to 2 inches over.

On decaying trunks of trees, particularly on the alder. [At Aldenham, Salop. Mr. STACKHOUSE.] Winter and Spring.

AGA'RICUS *querci'nus*. (LINN.)—Gills brown, waved, irregularly anaſtomoſing. Pileus brown, marked with concentric circles of various hues, ſemi-circular, flattiſh, ſoft and clothy.— *oak*

Ag. acaulis, lamellis labyrinthiformibus. LINN.

Bull. 352.—*Bolt.* 73.—*Schæff.* 57.—*Battar.* 38. *A. B.*—*Vaill. t.* 1. *f.* 1. 2, *in its young ſtate.*—*Buxb.* v. 4. 1.

GILLS very much branched, and anaſtomoſing, thick, forming oblong, angular, and nearly circular cavities, eſpecially towards the edge.

PILEUS woody, nearly ſemi-circular, or of no regular ſhape, marked with circular tiled ridges as well as with different ſhades of colour, ſoft to the touch like buff leather or fine cork, 1 to 5 inches over, or more.

STEM none.

Mr.

Mr. Bolton, who has accurately attended to the œconomy of this plant, obſerves that in its firſt ſtage of growth the Gills are uppermoſt, they are then diſtinct, and branched, their ſides united by minute lateral projections. In its ſecond ſtage the pileus is in part detached from the ſubſtance on which it grew, the detached part riſes up to an horizontal poſition, increaſing in ſize, whilſt the other part remains fixed ſerving as a ſupport to it. As it grows older, the lateral projections of the Gills increaſe in ſize, and filling up the interſtices between the Gills give them the appearance of oblong pores. Mr. Bulliard in plate 442 has given us ſeveral varieties of this very ſingular plant, and Schæffer 231 is one of monſtrous or unuſual growth. —Mr. Woodward obſerves that the union of the Gills forming lacunæ, leaves it doubtful whether it ſhould be placed with the Agarics or the Boleti. — Mr. Stackhouſe ſays that the pileus may be ſaid to conſiſt only of fructification, as it cannot be ſeparated from the old wood without taking with it the part it adheres to; he alſo agrees with Mr. Bulliard that it ſometimes appears ſo much like a Boletus as to occaſion a doubt to which genus it ſhould be referred. He further remarks, that in ſome of the thick, and to appearance ſolid ſpecimens, the pileus is not thicker than a ſhilling, that the Gill is a thick leathery ſubſtance, little reſembling the Gill of an Agaric, and that it is the link which connects the Agarics with the Boleti.

Ray ſyn. 25. n. 21.

Common on old pales, ſtumps, and decayed trees.

Var. 1. Pileus green, ſoft, clothy.

Bolt. 73. *d.*

Gills brown, waved, often connected, in no regular order.

Pileus marked with concentric circles of various hues, from green to brown; 1 to 7 inches over. *Fleſh* woody, thin, white.

It is poſſible that the green coat may be a ſpecies of Byſſus, but this idea did not occur whilſt the plant was freſh.

On old timber. Nov. 1790.

FISTU-

FISTULI'NA. (BULLIARD.)

Ess. CHAR. PILEUS with ſeparate Tubes underneath. SEEDS in the Tubes.

FISTULI'NA *hepat'ica*. Tubes very ſlender, unequal. Pileus thick, ſoft, fleſh coloured.—

Bull. 464, 497, *and* 74.—*Mich.* 60.—*Schæff.* 119. 118. 117. 116. 120.—*Bolt.* 79.

TUBES white, to yellow red, unequal in length, very ſlender; diſtinct from each other, not fixed ſide to ſide or buried in the ſubſtance of the fleſh.

PILEUS ſemi-circular, fleſh red, pulpy.

STEM thick, red, lateral, ſometimes wanting. BULLIARD; whoſe admirable drawings ſhould be conſulted in order to gain a good idea of the ſtructure of this very ſingular plant. When grown to a good ſize it looks exactly like a piece of beeve's liver. In the different figures cited above the under ſurface appears of very different colours, which Mr. Bulliard attributes to the preſence or abſence of pink coloured roſes which cloſe up the mouths of the tubes, but are detached before the ſeeds are poured out. This may in part account for the change, but it may be obſerved that the Tubes themſelves are alſo of different colours, viz. green, and brown red. BULL. 464, 497, BOLT. 79, MICH. 60, and SCHÆFF. 117, 118, forming the green tubed, and the others the red tubed ſpecies or variety. Not having had ſufficent opportunities of examining the plants in a recent ſtate, I mention theſe circumſtances in hopes that others who more frequently meet with them, will attend to them at different ages, and determine the matter. The fig. of Micheli is excellent, and the ſtructure of the tubes did not eſcape his penetrating eye, as appears by the diſſected figures at the bottom. He remarks that the pileus is ruſty red, the fleſh blood red, the tubes dirty dull yellow, bordered at the mouth. MICH. p. 119.—This plant attains its growth in a few days, and is of ſhort duration. BULL.—Lobes elliptical, generally iſſuing from a ſhort ſtem. In infancy it is viſcid, pulpy, and exſuding on being pricked a bloody water, colour deep red. When mature the upper ſide gets rough and hairy, and turns blackiſh red or deep chocolate. The under ſide does not aſſume the form of pores till a late period. It appears at firſt cream coloured, and is ſtudded very beautifully with pearl-coloured pimples, interſperſed with ſome of a blood red.

The

The pores and tubes are extremely minute, being like ſo many needles huddled together, nor is the aperture of the tubes very diſcernible without being magnified. They are hardly ½ inch deep. The fleſh of the plant now appears dry and ſtringy. Mr. Stackh.

Fiſtulina bugloſſoides. Bull. Boletus hepaticus. Schæffer. Huds. Ag. poroſus rubens. Ray. ſyn. 23. n. 12.

Seems to grow only on oak, but not always on high trees. Mr. Woodward.—On dead trunks, or in hollows of living trees.

Sept. Oct.

reverſed FISTULI'NA *pectina'ta.* Tubes yellow white, ſlanting. Pileus a leathery cruſt.—

Bolt. 74.—*Ray. ſyn. t. 1. f. 5, at p.* 28.

Fixed by the pileus, the tubes uppermoſt.

Pileus the colour and conſiſtence of a cow's hide, but ſofter, upon which are fixed the tubes, not united and contiguous, but ſeparate. *Tubes*, the central ones the longeſt, ſome near ½ inch long. It grows in patches of various ſizes, and no determinate ſhape. Colour white, to buff, browner with age, and black in decay.

In woods, and in cellars. Ray. Bolton. P.

Ag. pectinatus. Huds.—Bol. obliquus. Bolton.

The Bol. lachrymans may poſſibly belong to this.

1326. BOLE'TUS.

Ess. Char. Pileus with united tubes underneath. Seeds in the tubes.

A. Stems central.

* Tubes white.

tranſparent BOLE'TUS *pellu'cidus.* Tubes white, very ſhort. Pileus concave, rich brown, ſcaly. Stem whitiſh, thick, ſhort.—

Schæff. 122.

Tubes decurrent, very ſhort, white, ſemi-tranſparent. *Pores* white, minute, angular.

Pileus rich brown, ſcaly, hollow in the middle, turned down at the edge, 2 inches over.

Stem

Stem whitiſh, its upper part covered with tubular pores, rather conical, ½ inch long, and as much in diameter.

Schæffer in pl. 121, has figured another plant with a ſmooth pileus, which he thinks is the ſame, and calls them both B. ovinus. On account of the uncertainty of their identity, I have thought it better to give it a new name; to ſay nothing of the unmeaning application of the old one. This ſpecies is ſubject to be over run by the white and the yellow Reticularia of Bulliard. Schæffer's pl. 121 is cited by Mr. Hudſon as the B. ſubtomentoſus of Linnæus, which ſee.

Pool dam, Edgbaſton. 6th Aug. 1791.

BOLE'TUS *ſubfuſ'cus*. (Schæff.)—Tubes white, very ſhort. Pileus light brown, regularly convex. Stem pale brown. Root conical.— *pale-brown*

Schæff. 130, *may ſerve to give ſome idea of it, though it is not the plant.*

Tubes white, ¼ of an inch in length, pretty firmly fixed to the pileus. *Pores* white or browniſh white, very minute.

Pileus light brown, ſmooth, uniform, clothy to the touch, convex, 4 or 5 inches over. *Fleſh* very white.

Stem pale brown, covered with a beautiful white net-work over its whole ſurface, 3 inches high, and 2 inches diameter. *Root* conical.

Much like the Bol. elephantinus in its habit, but differs in the colour of its tubes, ſtem, and pileus, as well as in the form of the latter. No part of it changes colour on expoſure to the air.

Edgbaſton Park, under the large oak near the wall of the ſquare ſtew. Sept.

BOLE'TUS *polypo'rus*. Tubes white and very ſhort. Pileus brown, irregular; fleſh very thin. Stem brown, rarely central.— *eccentric*

Bull. 469.

Tubes where longeſt about 1-10th of an inch, in ſome places not 1-20th. *Pores* yellowiſh white, circular, ſo ſmall as hardly to be perceptible to the naked eye.

Pileus flattiſh, but irregular, the edge cooped in and depreſſed in places, cracking, from 3 to 6 inches over. *Fleſh* not 1-10th of an inch in thickneſs. When the pileus is quite central on the ſtem, it hangs flapping down on every ſide.

Stem dark brown above, paler below, tough, thickening upwards, 2 inches long, ½ to 1 inch diameter. The ſtem varies in every degree

degree of eccentricity, from perfectly central, to perfectly lateral, in which laſt ſtate it is well figured, though from ſmall plants, in *Bolt.* 168.

Mr. Bolton obſerves the change it undergoes when very old, and Mr. Bulliard has a figure which pretty well repreſents it in that ſtate, though I am aware it is an old plant of a different ſpecies, vide *Bull.* 360.

But in their very old and woody ſtate theſe plants loſe their diſtinguiſhing characters.

Gathered in all the above different ſtates at the foot of ſome paling in the old Worceſter road facing the cottage by the Park Gate, Edgbaſton. June.

orange BOLE'TUS *aurantia'cus.* (BULL.)—Tubes whitiſh. Pileus red orange. Stem whitiſh, rough.—

Bull. 236 *and* 489. *f.* 2. *R. S.*

TUBES not decurrent, browniſh white, 1-3d of an inch long, readily ſeparating from the pileus. *Pores* brown white, circular or angular.

PILEUS convex, full orange red, viſcid, 4 to 6 inches over, and ſometimes much larger, thin at the edge, and without tubes for about 1-10th of an inch. *Fleſh* yellowiſh white, not changing.

STEM whitiſh, or pale yellowiſh white, rough with coloured pimples like the ſkin of a gooſe, thickeſt downwards, either rounded or pointed at the baſe; ſpongy within, 2 to 3½ inches high, ½ to 1 inch or more in diameter.

Fir plantations at Bar, Staffordſhire. June.

** TUBES brown.

ſponge BOLE'TUS *bovi'nus.* (LINN.)—Tubes pale yellowiſh brown, unequal in length. Pileus brown or olive, clammy. Stem thick pale brown with ruſty ſtains.—

Boletus ſtipitatus, pileo glabro pulvinato marginato, poris compoſitis acutis, porulis angulatis brevioribus. LINN.

Bull. 60.

TUBES pale yellowiſh brown, not touching the ſtem, the longeſt ¼ to ½ inch long. *Pores* brown white, becoming more brown, and red brown with age.

PILEUS convex, thin at the edge, dark brown to olive, or tawny brown, viſcid; 3 to 6 inches over. *Fleſh* very thick, ſpongy, white, not changing colour.

STEM

Stem dirty white with reddiſh ſtains, white in the fleſh, but ſometimes with a reddiſh tinge, 3 to 7 inches high, and ¾ to 1½ inch diameter.

This ſpecies, though not uncommon, has been the occaſion of great confuſion, partly becauſe it had never been well figured before the 60th plate of M. Bulliard appeared, and partly from the Linnæan character holding forth the inequality of the pores as its moſt prominent feature. It is true, the pores appear very much like a piece of ſponge, both in colour and ſhape, and admit of great variety in ſize and figure, eſpecially as we find ſets of tubes together, opening with ſmall pores, ſurrounded by other longer tubes, which Linnæus calls compound pores. This is a ſtriking circumſtance, but as it likewiſe exiſts in ſeveral other of the larger Boleti in their fully expanded ſtate, inſtead of aiding the diſcrimination it has promoted the confuſion of the ſpecies. Not leſs than ten of the plates of Schæffer have been firſt and laſt given to this plant, though none of them repreſent it except 103, and 104, which are varieties, and 134, and 135, which may alſo be varieties, but it does not appear that they are known as Britiſh plants.

Schæff. 105, is the B. luteus, with bright yellow tubes and pores, and a crimſon and yellow ſtem.

—— 107, has green yellow tubes and crimſon pores, and is B. rubiolarius.

—— 108, is a variety of the B. luteus.

—— 112, has green yellow tubes and pores, with an orange pileus.

—— 130, has lemon coloured tubes and pores, a dotted brick red pileus, and a yellow and pinky ſtem.

—— 133, is the B. lactifluus, with a milky or yellow juice.

Micheli t. 68, 69, generally; 68. 1. and 68. 1, 2, more particularly have been referred to for the Bol. bovinus, alſo Battar. 29. A. B, and 30. A. B; but notwithſtanding a general reſemblance in the figures, the deſcriptions of the authors give little reaſon to believe that they are the plant.

Edgbaſton Park. End of Oct.

Var. 1. Tubes pale, yellowiſh; Pores tawny. Pileus buffy brown. Stem red brown, reticulated at bottom.

Bolt. 85.

Tubes not touching the ſtem; Pores round, ſmall. Sept.

Var. 2. Tubes brown white. Pileus brown, clothy. Stem dirty white, tapering greatly upwards.

Bolt. 86.—*Schæff.* 104, *but the tubes repreſented more yellow than ours.*

Tubes not connected with the ſtem, brown white, hardly ¼ of an inch long. *Pores* dilute watery browniſh white, irregular in ſhape and ſize.

Pileus warm brown, paler towards the edge, regularly convex, feels like fine cloth, cracking ſuperficially at the edge, but not ſo as to ſhew the fleſh. *Fleſh* white, changing ſlowly when cut to a pinky caſt.

Stem dirty white, pearſhaped at bottom and tapering upwards, 4 or 5 inches high, ½ to 1¼ diameter. *Fleſh* white, that of the bulbous part changing ſlowly to a bluiſh, but that above to a pinky caſt.

Paſtures, Edgbaſton. Auguſt.

Var. 3. Pileus dark brown. Stem rough with ſcurfy ſcales pointing upwards.

Bull. 132, *and* 489. *f.* 1.—*Schæff.* 103.

Stem more cylindrical than in the preceding.

Paſtures, Edgbaſton, with the former. Auguſt.

* Var. 4. Pores white, angular. Pileus brown, ſcaly and teſſellated.

Dickſ. 3. 2.—*Scop. ann.* iv. 1. 5.

Pores very white. *Pileus* dark brown, hard, about 2 inches over, the ſurface teſſellated ſomething like the cone of a fir. *Stem* thick, 3 or 4 inches high. Dickson.

Found by Mr. Lightfoot in woods near Bullſtrode, Buckingham. Auguſt.

perennial BOLE'TUS *peren'nis*. (Linn.)—Tubes ochrey brown. Pileus flattiſh, hollow in the center, ſtriated, marked with alternate circles of brown and tawny. Stem red brown.—

Bol. ſtipitatus, perennis, pileo utrinque planiuſculo. Linn.

Bull. 28, *coriaceus.*—*Schæff.* 125.—*Bull.* 449. 2.—*Bolt.* 87.

Tubes decurrent, ochrey yellow brown, not ſeparating from the pileus, extremely ſhort. *Pores* round or angular.

Pileus flattiſh, hollow in the center, ſtriated with hairs, marked with alternate circles of brown and tawny; 1 to 1½ inch over; leathery.

Stem red brown, often eccentric, 1 inch long, thick as a raven's quill.

M. Bulliard remarks the diſpoſition of the Pilei to unite when they happen to grow in contact with each other.

Stem ſhort, ſmall wiry. *Pileus* very thin at the edge, chocolate colour when young, with a greeniſh caſt when old. *Pores* irregular, ſmall, ſnuff-coloured. The whole plant is leathery or woody, and frequently comes up ſo thick that the pilei run into one another. Mr. Stackhouse.

Dean and Chapter Grove, Hereford, on old charcoal pits. Common hillwood, Fownhope. Mr. Stackhouse.

Var.

VAR. 1. Tubes, Pileus, and Stem cinnamon colour.

Bull. 254.—*Jacq. coll.* I. *t.* 2.

Wholly cinnamon coloured within and without.

TUBES decurrent. *Pores* angular.

PILEUS flat convex, ſtriated, thin, hollow in the center, 1 inch over, ſoft and ſilky to the touch.

STEM woolly, an inch high, and as thick as a crow quill.

Pileus thin, woolly, marked with zones; very brittle when dry. DICKSON.

Firſt found in this kingdom by Mr. Dickſon, but given to us with no other habitat than the general one of—paſtures.

Bol. cinnamomeus. JACQ.

* BOLE'TUS *ſub-tomento'ſus*. (LINN.)—Pores tawny, rather angular, of different ſhapes. Pileus yellow, ſomewhat woolly. Stem yellow.— *woolly*

Bol. ſtipitatus, pileo flavo ſub-tomentoſo, poris ſub-angulatis difformibus fulvis planis, ſtipite, flavo. LINN.

Mich. 68. 2.

Pileus convex, fleſhy, by no means ſmooth or clammy; ſharp at the edge. *Pores* with blunt angles, the ends forming a plano-concave ſurface. *Stem* ſmoothiſh. *Fl. Suec.*—This is introduced on the authority of Mr. Hudſon, who refers to Schæff. t. 121, with yellowiſh white pores, and a whitiſh ſtem.

In woods near Eſhar, Surry. HUDS. Sept. Oct.

BOLE'TUS *rubeola'rius*. (BULL.)—Tubes olive colour; pores rich red brown. Pileus and ſtem red cinnamon.— *red-brown*

Bull. 100, *and* 490. 1.—*Schæff.* 107.

TUBES olive colour, fixed to the ſtem. *Pores* rich red brown, variouſly ſhaped, but moſtly oval.

PILEUS red cinnamon, convex, ſoft to the touch and rather clammy.

Fleſh thick, ſpongy, buff colour, inſtantly turning blue when wounded.

STEM red cinnamon and bulbous below, yellow, reddiſh, and cylindrical above; ſpongy within, and rich yellow, but inſtantly changing to a blue; 2½ to 3 inches high, ¼ to 1¼ diameter.

In its young ſtate the pores are crimſon, and the center of the pileus of a chocolate colour.

Edgbaſton Park, under Spaniſh cheſnut trees. Aug.

*** Tubes buff.

horny BOLE'TUS *nummula'rius.* (Bull.)—Tubes very ſhort, buff colour. Pileus colour of horn, convex, dimpled. Stem colour of horn, black at the baſe.—

Bull. 124.

Tubes looſe from the ſtem, buff, very ſhort. *Pores* angular; general ſurface underneath the pileus concave.

Pileus the colour of brown horn, with a black circle at the edge, gently convex, but hollowed in the center; tough like leather, ſmooth, very thin.

Stem colour of brown horn, black at the baſe, ſmooth, 2 inches high, thick as a gooſe quill.

Mr. Bulliard figures the ſtem as more or leſs eccentric, and ſays they are always ſo, but the ſpecimen from which the preceding deſcription was taken is an exception to this obſervation. Mr. Dickſon obſerves that it is chiefly found on ſlender rotten branches of hazel. He quotes the fig. of Bulliard, cited above, and in his ſecond faſc. refers Bolt. 83, to this plant, but I think Bolton's is a different ſpecies.

On a piece of rotten ſtick by the tail of the pool in Edgbaſton Park. 16th March, 1791.

**** Tubes yellow.

elephant BOLE'TUS *elephanti'nus.* Tubes yellow, ſhort. Pileus dead white, convex, but very irregular. Stem yellow, thick and ſhort.—

(Schæff. 134 *and* 135, *nearly reſemble it, except in colour.)*

Tubes yellow, the longeſt not more than 1-3d of an inch, adhering firmly to the pileus. *Pores* very ſmall, circular.

Pileus dead white, convex, but very irregular in ſhape, from 2 to 4 inches over, downy in the depreſſed parts, cooping in, and ſo thick in fleſh as to leave but little ſpace for the tubes.

Stem yellow, 1 to 2 inches high, and nearly as much in diameter.

I have named it from its thick clumſy ſtem, and its general maſſy appearance.

Red Rock plantation, Edgbaſton Park. Sept. 1791.

eatable BOLE'TUS *ed'ulis.* (Bull.)—Tubes yellow. Pileus brown. Stem light browniſh yellow.—

Bull. 494.

Tubes yellow, more than ¾ of an inch long, not fixed to the ſtem, readily ſeparating from the pileus. *Pores* yellow, circular, ſmall for the ſize of the plant.

Pileus

Pileus pale or deeper brown, with ruſt-coloured patches, nearly globular and 5 or 6 inches over when opening, but a flat convex and 7 or 8 inches acroſs when fully expanded. *Fleſh* white, not changing colour when wounded.

Stem light browniſh or yellowiſh, 3 to 5 inches high, 1½ diameter, tapering upwards.

Mr. Bulliard reckons this a variety of the B. bovinus of Linnæus.

Fir Plantations at Bar, Staffordſhire, the reſidence of Mr. Galton. Aug.

*BOLE'TUS *grega'rius*. Tubes yellow; pores oblong, unequal. Pileus thin, flattiſh, dark or pale cheſnut. Stem pale cheſnut, pinky below.— *cluſtered*

Fl. dan. 1018.

Tubes ſhort. *Pores* ſmall, angular, yellow.

Pileus reddiſh yellow, clammy, ſmooth, thin, flat, 2 to 4 inches over. *Fleſh* white.

Stem inſenſibly ſwelling into the pileus, and expanding till it loſes itſelf in the rim; 3 to 4 inches high, ½ inch diameter.

I met with this in the ſummer of 1790, and marked its ſingularity in being faciculated, before I ſaw the plate in the Fl. dan. It is much eaten by inſects. Mr. Stackhouse.

Pendarvis, Cornwall. Mr. Stackhouse.

*BOLE'TUS *lu'teus*. Tubes deep yellow. Pileus deep bay, ſtriated. Stem dirty white. Ring permanent. *ſtriated*

Bol. ſtipitatus, pileo pulvinato ſub-viſcido, poris rotundatis convexis flaviſſimis, ſtipite albido. Linn.

Schæff. 114.—*Hedwig th.* 36. 210.

Tubes deep yellow, ¼ of an inch long, readily ſeparating from the pileus. *Pores* round.

Pileus rather conical, edge turned in, deep bay, darkeſt in the center, ſtriated with hairineſs, viſcid, 3 to 4 inches over. *Fleſh* white, not changing.

Stem dirty white, cylindrical, widening at the top, bulbous at the root. *Curtain* membranaceous, whitiſh. *Ring* permanent. Schæffer.

Woods and paſtures Aug.—Oct.

BOLE'TUS *oliva'ceus*. Tubes bright yellow. Pileus olive brown. Stem brown below, yellow or crimſon above.— *olive*

Bolt. 84.—*Schæff.* 105, *and* 315.—(*ib.* 108, *ſeems to be a variety.*)

Tubes bright yellow, the longeſt next the ſtem about ¼ of an inch; inſtantly turning blue when wounded. *Pores* bright yellow, round or oval.

Pileus olive brown, 3 to 4 inches over, edge turned down. *Fleſh* yellow, inſtantly turning blue when expoſed to the air.

Stem brown below, bright yellow or crimſon elſewhere; 3 to 4 inches high, ¼ inch diameter. *Curtain* brown, fugacious.

Mr. Bulliard quotes Bolt. 84 as a ſynonym to his B. annularius, but the latter has a yellow pileus with red ſtreaks, a permanent ring on the ſtem, and the fleſh not changing colour when expoſed to the air.

Church lane, Edgbaſton, hedge banks and amongſt moſs. Sept.

crimſon BOLE'TUS *ſanguin'eus*. Tubes yellow. Pileus blood red, changing to rich red brown. Stem yellow, with broad crimſon ſtreaks.—

Tubes yellow, a little decurrent, unequal in length, but moſtly about 1-8th of an inch long, changing to deep blue when broken. *Pores* lemon yellow, angular.

Pileus crimſon, ſemi-globular, ¾ to 1¼ inch over; when old rich red brown, near 3 inches over, and the edge turning up. *Fleſh* white, a little tinged with crimſon next to the ſkin, changing ſlowly to a bluiſh caſt when wounded.

Stem blotches or ſtreaks of dilute crimſon on a yellow ground, apparently twiſted, 1 to 2½ inches high, near 3-8ths diameter. In the larger ſpecimens the baſe is bulbous.

I have never found this ſpecies elſewhere than on the ſpot mentioned below, and no author I meet with has figured it. In its button ſtate the blood red pileus, the yellow and crimſon ſtained ſtem, and the fine lemon coloured pores render it a beautiful object. I once only found it in an expanded ſtate as deſcribed above, growing on the ſame ſpot, but am rather doubtful as to the identity of the ſpecies.

Between the large ſquare ſtew and the wall, in Edgbaſton Park. Aug.

pinky BOLE'TUS *chryſen'teron*. (Bull.)—Tubes yellow, decurrent. Pileus gently convex, pinky red. Stem yellow below, pinky upwards.—

Bull. 393.

Tubes decurrent, yellow, 1-3d of an inch long, changing to greeniſh when broken. *Pores* yellow, round or oblong.

Pileus a flat convex when fully expanded, pinky red, 2 to 3 inches over.

Stem

Stem yellow below, pinky upwards, ſwelling below, but tapering again at the root; 2 inches high, ½ inch diameter.
Rookery, Edgbaſton. July.

BOLE'TUS *fla'vus*. Tubes brown yellow, a little decurrent. Pileus orange, ſhining, viſcid. Stem yellow. *yellow*

Bolt. 169, *excellent.*—(*Bull.* 332, *nearly allied to it, but not the ſame.*)

Tubes browniſh yellow, a little ſpreading down the ſtem. *Pores* lemon colour, irregular in ſhape and ſize, the larger ones divided by partitions, the ends of the partitions ſhorter than the ends of the larger tubes.

Pileus convex, edge rather turning up, deep orange when young, paler with age, ſhining with a viſcid varniſh, 2 to 4 inches over. *Fleſh* pale yellow, not changing when cut.

Stem yellow, 1 to 3 inches high, cylindrical, ½ to ¾ inch diameter. *Curtain* white, connecting the edge of the pileus with the ſtem, and leaving a ring on the ſtem.

Mr. Bolton cites Bull. 332 for this plant, but it differs in its dry pileus with red ſtreaks, and its white fleſh.

In ſeveral of the plantations in Edgbaſton Park. Aug. Very frequent in the pleaſure grounds at Enville. June.

BOLE'TUS *lactif'luus*. Tubes yellow. Pileus red buff. Stem bright yellow. Juice like milk.— *milky*

Schæff. 133, (*nearly the ſame.*)

Tubes in contact with the ſtem, yellow, leſs than ¼ of an inch in length. *Pores* bright yellow, very minute. They ſeem as if filled up by the exſudation of an inſpiſſated juice.

Pileus reddiſh buff, or fawn-colour, very convex, viſcid, 2 to 4 inches over. *Fleſh* thick, white, ſolid.

Stem bright yellow within and without, paler with age, ¾ to 2½ inches long, 3-8ths thick.

When freſh gathered the plant abounds with white milky juice, not acrid. Its flavour is like that of the Ag. campeſtris. When old the milk is leſs abundant. Schæffer's plant is deſcribed as having a yellow juice, and the pileus purpliſh red; in other reſpects they agree.

Edgbaſton Park. 5th Aug. 1791.

*BOLE'TUS *ſubſtric'tus*. (Bolt.)—Tubes dirty yellow; pores minute. Pileus dirty yellow, convex, thin. Stem dirty yellow, hard, tough, ſometimes eccentric.— *tough*

Bolt. 170.

Tubes, the longeſt about ¼ of an inch. *Pores* pale yellowiſh colour, minute, regular, angular when magnified. Pileus

Fileus yellow brown olive, inclining to aſh colour, gently convex, thin at the edge, ſmooth, tough, leathery, 1 to 2 inches over. *Fleſh* thin, white.

Stem duſky or yellowiſh, white within, cylindrical or compreſſed, hard, tough, 1 to 2 inches high, thick as a gooſe quill. Bolton, Near Darlington, and North Dean near Halifax.

B. Stems lateral.

* Tubes white.

lacquered * BOLE'TUS *rugo'ſus*. (Jacq.)—Tubes white. Pileus cheſnut coloured, ſhining. Stem hard, uneven, cheſnut coloured, ſhining.—

Curt. 224.—*Bull.* 7 *and* 459.—*Jacq. fl.* 169.—*Batſch.* 225.

Tubes very white. *Pores* exceedingly ſmall. Thunb. jap. t. 39.

Pileus flat, ſemi-circular, or more; highly poliſhed, marked with concentric grooves; edge thick, wrinkled, 3 to 8 inches over.

Stem lateral, cheſnut coloured, hard, uneven, ſhining as if varniſhed, 3 to 5 inches high, 1 to 2 inches in diameter. Sometimes without a ſtem. Mr. Woodward.

Bol. lucidus. Curt. Bol. obliquatus. Bulliard; who deſcribes his plant as varniſhed in every part except where the pores are, but has not expreſſed it ſo in his figures. *Pileus* oblique, lateral, purpliſh brown, wrinkled in circular wavy lines, highly varniſhed, puckered at top, a wave of dirty white at the rim. *Pores* very minute, dirty white. *Stem* thick, crumpled, colour of the pileus, Mr. Stackhouse.

Stumps of trees. Everſden and Linton Woods, Cambridgeſh. [Ditchingham and Brome. Mr. Woodward.—Woolhope, Herefordſhire. Mr. Stackhouse.] July—Sept.

foliated * BOLE'TUS *frondo'ſus*. Tubes white. Pileus brown, lobed, tiled. Stem black at the baſe, very irregular.—

Fl. dan. 952.—*Schæff.* 128. 129.—*Bolt.* 76.—*Barr.* 1268.

Tubes decurrent, white, about 1-10th of an inch long. *Pores* very ſmall, very numerous, circular, or angular, ſometimes confluent.

Pileus pale yellowiſh brown to deeper cinnamon, leathery, waved, lobed, ſometimes jagged, lobes tiled one over another, 2 inches wide and rather more in length.

Stem very irregular and miſhapen, expanding ſo as to form the pileus, about an inch high, or more, ſometimes almoſt covered with pores, never central, black at the baſe, ſeveral together in cluſters, near an inch broad. Relhan. Dickson. — I ſaw one at Brome growing at the bottom of an old tree, which meaſured nearly

nearly 2 feet acroſs, and the tiled lobes next to the tree more than 6 inches deep. Mr. WOODWARD.

BOLE'TUS *betuli'nus*. Tubes pure white, very ſhort. Pileus pinky brown, edge curled in. Stem black.— *pinky-brown*

Bolt. 159.—*(not Bol. betulinus, Bull.* 312.*)*

TUBES very white and ſhort, from 1-10th to 1-50th of an inch long. Pores very minute; general ſurface concave.

PILEUS ſmooth, oblong, convex, curled in at the edge, pinky brown, thin, flexible, often divided into tongue-ſhaped lobes. *Fleſh* white, ¼ of an inch thick, very thin at the edge.

STEM lateral, black, 1 to 2 inches long, ½ inch diameter.

Whole plant leathery, tough, 2 to 4 inches wide, and 3 to 8 inches long; looks when growing, and ſmells like the Ag. oſtreatus. The tubes do not ſeparate from the pileus except in the older plants; in the young ones I have found it next to impoſſible to detach them.

On the ſtump of an aſh tree; Edgbaſton. May.

BOLE'TUS *ſquamo'ſus*. Tubes yellow white; pores large, angular. Pileus pale buff, pencilled with feather-like ſcales.— *ſcaly*

Fl. dan. 893.—*Schæff.* 101 *and* 102.—*Bull.* 114.—*Bolt.* 77.—*Batſch.* 41.—*Sterb.* 13, *and poſſibly* 14.

TUBES ſhort, nearly white, ſlanting. *Pores* large, whitiſh, angular, varying much in ſize.

PILEUS pale buff, adorned with feather-like ſcales of a deeper dye, ſometimes with a tinge of red, ſemi-circular, or fan-ſhaped, from 5 to 14 inches over. *Fleſh* white, firm, elaſtic.

STEM lateral, dark-coloured, white within, from 1 to 2 inches long, and as much in breadth.

It has a rank fungous ſmell, and is apt to abound with maggots.

On the ſtumps of various kinds of trees; much crowded together. In the rick yard, Edgbaſton, on the ſtump of an aſh. June.

** TUBES yellowiſh.

* BOLE'TUS *rangiferi'nus*. Pores yellowiſh. Pileus dirty yellow. Stem dark brown, branched.— *deers-horn*

Phil. tranſ. abr. x. *pl.* 20. *f.* 109, *at p.* 705; *cop. in Blackſt. frontiſpiece.—Bolt.* 138.—*(Dr. Stokes thinks that ſl. dan.* 405, *and Schæff.* 326, *are the plant not yet arrived at maturity.)*

TUBES decurrent, dirty yellow, ragged at the extremity.

PILEUS an expanſion of the ſtem, dirty yellow, oblong, about 2 inches by 1½.

STEM dark brown, 1½ to 3 inches high, thick as a ſwan's quill, often with one or more lateral branches, ſplitting at the end into ſeveral horn-ſhaped

hornſhaped branches, with yellow tops, or elſe expanding into the pileus. *Root* a congeries of brown ſubſtances as large as hazel nuts. BOLTON.—The whole plant bears a reſemblance to the palmated branching horns of the larger ſpecies of deer. Profeſſor Martyn, who firſt publiſhed an account of it. ſays, that his plant was 2 feet high. It was of a duſky red colour, inclining to black; the pores and the tips of the horns of a cream colour.

Both Mr. Martyn's and Mr. Bolton's plants were found affixed to a log of wood in a cellar.

ſlipper BOLE'TUS *calce'olus.* (BULL.)—Tubes buff colour, pores very ſmall. Pileus deep buff to cheſnut, hollowed in the middle, thin and waved at the edge.—

Bull. 46, *Bol. elegans, the cheſnut coloured pileus*; *ib.* 445. 2, *the buff pileus*; *ib.* 360, *an old plant, which if it was not for the decurrence of the pores on the ſtem would alſo repreſent the Bol. polyporus in its old and woody ſtate.*

TUBES decurrent, the longeſt near ¼ of an inch. *Pores* buff colour, ſmall, but not all of the ſame ſize.

PILEUS deep buff to cheſnut colour, firm and hard to cut, like a cork, hollowed near the inſertion of the ſtem, thin and waved or curled at the edge, 2 to 4 inches over.

STEM lateral, ſometimes approaching to central, tough, white, conical, gradually loſing itſelf into the pileus and becoming covered by the pores, ſo that it is difficult to decide its length, which however may be conſidered as near an inch in the larger ſpecimens, and 1-4th to 3-8ths diameter. The plant is much crowded in its growth, ſo that the ſubſtance of one often unites with the ſubſtance of thoſe adjoining it.

Stump of an aſh tree, rick yard, Edgbaſton. June.

leather-like * BOLE'TUS *latera'lis.* (BOLT.)—Tubes yellow, very ſhort. Pileus dead yellow, thin, ſmooth. Stem yellow.—

Bolt. 83.—*Battar.* 34. *A.*

TUBES about a line in length. *Pores* circular, ſo minute as not to be diſcernible by the naked eye.

PILEUS yellow, ſmooth, flat, very thin, leather like, 1 to 2 inches in diameter.

STEM lateral, dull yellow, gradually ſpreading out at its top ſo as to form the pileus, ½ to near 1 inch long, ¼ in diameter. *Root* hard, black. BOLTON.

On the trunk of a fallen willow. Auguſt.

C. Stem-less.

* Tubes white.

BOLE'TUS *ſubero'ſus.* (Linn.)—Tubes white, *cork* pointed. Pores irregular. Pileus white, convex, ſmooth, thin.—

Bolt. 162.—*Bull.* 482. F.

Bol. acaulis, pulvinatus, albus, lævis, poris acutis difformibus. Snowy white; ſoft as ſponge. Linn.

Pileus arched, thin, wrinkled, ſometimes marked with zones, grey white, very watery when young. Bulliard.—*Tubes* of unequal lengths. *Pileus* white, downy when young, ſmooth when old, but made uneven by riſing bunches. Bolton.—This is known from its perfect reſemblance to cork. *Lobes* thick. *Pores* irregular in their ſhape. Bull. C. D. G. are redder than I have ſeen it. Mr. Stackhouse.

Trunks of aſh trees in Weſtmoreland, common. P. [Plentiful near Bath, on ſtumps of trees. Mr. Stackhouse.]

BOLE'TUS *medul'la-pa'nis.* (Jacq.)—Wholly white, *pith-like* cruſtaceous, ſpreading. Pores on the upper ſurface only; ſlanting.—

Jacq. miſc. 1. 11.—*Bolt.* 67, *the lower figure.*—*Mich.* 63. 2.

Cruſtaceous, white, ſpread thin, accommodating itſelf to the ſurface of the ground or of the rotten wood on which it grows, from 1 line to ſeveral in thickneſs, ſoft when young but firm. *Pores* very ſmall, cylindrical, numerous, a little ſlanting, covering the whole upper ſurface only. Jacquin.

On rotten wood. Dicks. 18. and decayed branches of trees. Relh. *n.* 1044.—[I found this in a ploughed field near Bungay, apparently growing on the ground, but on examination it aroſe from a decayed root near the ſurface. Mr. Woodward.—On the bark of fallen trees in the rookery, Edgbaſton.] April.

Var. 1. Pores very ſhallow.

Bolt. 166.

On the ſtump of a tree that had been ſawn off; Edgbaſton.

BOLE'TUS *ſalic'inus.* (Bull.)—Tubes white to *willow* tawny; very ſhort. Pileus ſemi-circular, whitiſh, ſmooth, thin, ſoft, leathery.—

Bull. 433. 1.

Tubes

Tubes hardly the tenth of an inch long. *Pileus* not marked with concentric circles, always ſmooth and thin, from 2 to 5 inches over. It is ſeldom found in cluſters; always on ſickly or dead willows. Sometimes it ſends out fibrous roots between the bark and the wood. Subſtance ſoft, leathery, not hard like cork; its duration not more than 2 or 3 months. BULLIARD.—This grows out of decayed willows; it is dry and leathery. *Pores* oblong, ſweet ſmelling, pale brown, reſembling a honey comb in ſtructure. Mr. STACKHOUSE.

Bol. albus. HUDSON.

On willow trees, very common. May—Oct.

VAR. 1. Pileus white, downy, ſcolloped and almoſt curled at the edge.

Bolt. 78.

TUBES white, turning to a dirty red when cut or bruiſed; nearly 1-10th of an inch long. *Pores* very irregular in ſhape and ſize.

PILEUS white, downy, when this is rubbed off, red brown; 7 inches long, 3 inches broad, thin at the edge, and waved, 1½ inch thick at the baſe.

Hedge banks, Edgbaſton, fixed to half rotten wood. July.

The ſpecimens I have ſeen were larger than figured and deſcribed by Bolton; the margins were lobed and waved, but not with ſo much elegance. Mr. Bolton's fig. being taken from a ſmall plant, it might grow with more regularity. Mr. WOODWARD.

Ditchingham near Bungay, and at Diſs, Norfolk. Mr. WOODW.

ſweet BOLE'TUS *ſuave'olens.* (LINN.)—Tubes very long, white changing to tawny. Pileus ſmooth, ſemi-circular, white or tawny. Fleſh yellow brown. BULL.

Bol. acaulis, ſuperne lævis, ſalicinus. LINN.

Bull. 310.—*Walc. n.* 4. *B. ſuberoſus.*

TUBES at firſt whitiſh, changing to ſtraw colour, and then to tawny, eſpecially at the ends, ½ an inch long or more in large ſpecimens. *Pores* irregular.

PILEUS at firſt white, tawny, browniſh and marked with concentric circles as it grows old. *Fleſh* white or yellowiſh, compact, like cork. Diameter from 2 to 5 inches or more. Its odour penetrating and agreeable, but it loſes this with age, and even in the younger plants when thin it is not always perceptible. BULLIARD.

On the trunks of willow trees, in autumn, not uncommon; continuing about a year.

Sometimes growing tiled one above another to a very large ſize. Pileus frequently tinged with orange. The B. albus of Hudſon is thicker at the baſe and more regular in its figure. Mr. WOODWARD.

On old oaks and other trees, frequent. Mr. WOODWARD.

BOLE'TUS *ſpongio'ſus*. (LIGHTF.)—Pores whitiſh, *ſpongy* fringed, angular. Pileus brown, woolly.—

Battar. 33. *D, E, F, G, H.* — *Cluſ.* ii. 265. 2, *cop. in J. B.* iii. 831. 2.

Sitting, horizontal, ſemi-circular, convex, ſometimes as big as a peck meaſure. LIGHTFOOT.—Very elegant when young, turning quite black when old. *Seeds* when ripe falling out in form of a yellow powder, and when examined appearing faſtened to a ſlender hair-like thread like the beads of a necklace. Theſe filaments often hang down forming feſtoons, from the under ſurface of the pileus. Mr. WOODWARD.

B. villoſus. HUDS. 626.

Trunks of trees. [Moſtly on elms, and often exceeding the trunk of the tree in diameter. Mr. WOODWARD.]

*BOLE'TUS *la'chrymans*. (WULFEN.)—Tubes white. *dry-rot* Pileus orange coloured, wrinkled, reticulated, with a broad, white, arched border.—

Jacq. Miſc. ii. 8. 2.—*Bolt.* 167, *upper figure.*—*Scop. ſubt.* 9. 3.

Stemleſs, leathery, half oval, one or two lines thick, 3 inches long, 1½ broad, ſmooth, fleſh white. The under ſurface in contact with the wood or the walls, white, ſmooth, without pores; but the white border contains the pores, which are ſometimes alſo found in the yellow part. The pores are circular, or quadrangular, or compreſſed, and contain water. WULFEN, in Jacq. miſc. ii. p. 111.

In heaps on dale planks in places expoſed to wet where they communicate with the walls. DICKSON. faſc. i. p. 18; excluding by the advice of Mr. Woodward the references to Ray and Hudſon.—[On decaying wood in cellars frequent. Not uncommon on gates and poſts expoſed to the weather, but in ſuch ſituations does not ſpread much. Mr. WOODWARD.]

BOLE'TUS *verſi'color*. (LINN.)—Tubes white. *ſtriped* Pileus ſtriped with different colours.—

Bol. acaulis, faſciis dicoloribus, poris albis. LINN.

Bull. 86.—*Schæff.* 268 *and* 269.—*Bolt.* 81.—*Walc. n.* 9.—*Battar.* 35. *A.*

Pores very minute; Tubes very ſhort, wearing out with age. Mr. STACKHOUSE.—*Tubes* very ſhort. *Pores* circular or angular, varying in ſize. *Pileus* thin, velvety, ſtriped in concentric circles of various colours. This plant is very common. In its firſt ſtages of growth the pores are uppermoſt, in time it quits its attachment by the pileus and reverſes itſelf, as explained in the Ag. quercinus.

On trees, rails, and ſtumps. P.

** Tubes brown.

yellow-brown BOLE'TUS *cuticula'ris.* (Bull.)—Tubes dark brown, long. Pores rich yellow brown. Pileus dark red brown, ſemi-circular, very uneven.—

Bull. 462.

Tubes long, darker brown than the fleſh. *Pores* minute, regular, rich yellow brown, when turned ſloping to the light exhibiting ſilvery reflections like the pile of velvet.

Pileus rich dark red brown, often whitiſh at the edge, ſtrongly marked and made very uneven by concentric ridges; ſometimes one ſtratum of the plant laid on another, 3 to 5 inches wide, 1½ to 3 inches broad. *Fleſh* thin, brown.

On a dead alder ſtump below the caſcade by the ſide of the brook, Edgbaſton Park. Dec.

long-tubed BOLE'TUS *crypta'rum.* (Bull.)—Tubes ruſt coloured, very long. Pileus ruſt coloured, thin, ſupine.—

Bull. 478.—*Bolt.* 165.

Tubes ½ an inch or more in length, conſtituting almoſt the whole ſubſtance of the plant. *Pores* ruſty brown, very minute. *Pileus* thin, leathery, or ſpongy, ſoft, adapting itſelf to the wood on which it grows, and ſerving as a baſe on which the tubes are erected. Bolton. Bulliard.—In M. Bulliard's plate the plants are repreſented as growing in great maſſes, and cupping up. Theſe grew in vaults upon hewn timber. Mr. Bolton found his on dry decayed boughs of hazle. Feb.

rugged BOLE'TUS *lab'yrinthifor'mis.* (Bull.)—Tubes red brown, long. Pores ſinuous. Pileus rugged, zoned, brick red.—

Bolt. 160.—*Bull.* 491. 1.

Tubes ¼ to ½ inch long, reddiſh brown. *Pores* ſinuous or labyrinth formed, greyiſh or reddiſh brown. *Pileus* rough, wrinkled, marked with diſtant concentric circles of a lighter or darker brown colour, ſemi-circular, 1½ to 2 inches radius. *Fleſh* woody, pale brown, veined, ſmooth. Bolton. Bulliard.—*Lobes* many from one root, waved at the edge, puſtulated on the upper ſurface; reddiſh brown. *Pores* oblong, angular and ſinuous. Mr. Stackhouse; to whoſe attentions I am indebted for a ſpecimen.

On old trees, and roots. [Trunks of trees cut off, or on the adjoining ground. Mr. Stackhouse.] Sept.

BO-

BOLE'TUS *uni'color*. (BULL.)—Tubes grey brown. Pores labyrinth-formed. Pileus woolly, with zones of different ſhades of the ſame colour.— *ſelf-coloured*

Bull. 408, *and* 501. *f.* 3.—*Bolt.* 163, *young plants.*

Tubes ¼ of an inch or more in length. *Pileus* thin, ſemi-circular, leathery, moſtly brown or red brown. BULLIARD.—In habit much reſembling the B. verſicolor, but differs in the colour and length of the tubes. *Pileus* ſometimes green.

On trees, ſtumps, and rails, not uncommon. P.

*** TUBES red.

*BOLE'TUS *lacinia'tus*. Tubes very ſhort. Pores bloſſom coloured. Pileus browniſh or aſh coloured, arched, warty, thin, fringed at the edge.— *fringed*

(Bull. 366. *Boletus imbricatus is ſomething like it.)*

Tubes very ſhort and ſlender; pores very minute, bloſſom colour. *Pileus* very thin, lobed; lobes arched and hanging over each other, an inch wide and 1½ long, leathery, deeply fringed at the edge, ſurface puſtular, mottled, yellow brown or aſh colour. *Root* and thickeſt part of the pileus like cork. Deſcription and drawing from Mr. STACKHOUSE.—M. Bulliard's Bol. imbricatus ſeems ſomething like it, but is a much larger and more luxuriant ſpecimen, perhaps alſo in an older ſtate, for the pores have a deeper ſhade of colour. It however is more bright in its tints, and wants the warty tubercles on the pileus, ſo that I dare not cite it as the ſame.

Comb Wood near Bath. Mr. STACKHOUSE.

* VAR. 1. Pileus ſmooth, downy, ſending out root-like ſuckers from the under ſide.

Subſtance hard, leathery. Dull bloſſom colour underneath. It is rather yellower than the preceding, and had ſome brown ſtriæ on the pileus.

Found near the former, of which it may be only a variety. Mr. STACKHOUSE.

BOLE'TUS *hiſ'pidus*. (BULL.)—Tubes yellow red, fringed. Pileus bright red brown, rough with briſtly hairs.— *briſtly*

Bull. 210.

Blood red when young, in middle age the pileus purpliſh brick red, the pores blackiſh tawny; in old age black. The plant is ſtemleſs, ſoft, leathery, very fleſhy, 4 inches wide. BULLIARD.

Chiefly on old oaks. Specimen ſent me by Mr. Stackhouſe.

**** TUBES

**** Tubes yellow.

brimſtone BOLE'TUS *ſulphu'reus*. (Bull.)—Tubes and pores ſulphur colour. Pileus bright aurora, ſtreaked.—

Bull. 429, *exactly our plant.*

Sometimes grows very much tiled, the lobes 40 or more; the whole maſs half a yard in length and a foot or more in breadth. In its firſt ſtate it is ſoft like a cuſtard. Mr. Stackhouse.

Tubes yellow, not longer than 1-10th of an inch. *Pores* very minute, irregular in ſhape.

Pileus nearly ſemi-circular, 6 inches radius, in ſhape like the under ſhell of a very large oyſter inverted, colour bright aurora, ſtreaked; thin edge bordered with yellow, for about 1-10th of an inch in breadth. *Fleſh* thin, ſoft, white, ſometimes ſtained red near the upper ſurface, but never yellow. *Stem* next to none, but a thick maſs near 2 inches in diameter fixes the plant to the tree.

This is an extremely beautiful plant, and admirably depicted by M. Bulliard. The fine ſulphur yellow of the pores flies off in a few hours after the plant is gathered. The aurora colour appears on the yellow parts of the pileus whenever the ſurface is abraded. Some ſpecimens grow double, one over another, from the ſame root.

In the cleft of a large cherry tree at Edgbaſton, where a ſimilar one was gathered the preceding year, ſo that it appears to be an annual. 28th June. Woolhope, Herefordſhire, and in a yew tree, near Kidderminſter. Mr. Stackhouse.

Var. 1. Pileus pale yellow or buff, thick, tough, elaſtic, tiled.
Bolt. 75.—*Battar.* 34. *B.*—*Schæff.* 132.—*ib.* 131, *its young pulpy ſtate.*
Bol. coriaceus. Huds.—Bol. tenax, Lightfoot.
In hollows on the trunks of trees. May—Sept.

pluſh BOLE'TUS *veluti'nus*. Tubes brown yellow. Pores pale brown. Pileus very irregular in ſhape, covered with a denſe pile of a ſilvery grey colour.—

Tubes bright gold colour, changing to brown yellow; ½ an inch long. Pores irregular in ſize, angular, light greyiſh brown, apparently woolly.

Pileus a very large mis-ſhapen maſs, covered with a ſtiff pluſhy pile conſiſting of upright hairs ¼ of an inch high. Colour ſilvery grey, changing to orange, and at length to black. *Fleſh* ſeveral inches thick, chocolate coloured, with a rich red tinge, juicy. In the younger ſtate of the plant the pile on the pileus conſiſts of all colours from pale yellow to deep brown orange, and when magnified

magnified appears compoſed of ſtars radiating from a center. It is very beautiful ſeen through an eye glaſs, but its beauty is ſoon deſtroyed on account of its tender juicy ſtate.

On trees, at Edgbaſton, Oct. 1790; on the trunk of a fallen oak which had been ſtripped of its bark about 3 years ago, near Bewley, in Worceſterſhire. Auguſt, 1792.

VAR. 1. Tubes yellow, fringed. Pileus covered with a black or brown ſhag.

Bull. 493.—*Bolt.* 161.—*Battar.* 33. *D. E. F. G. H.*

Thick, fleſhy, ſoft, juicy. *Tubes* ½ inch long, yellow. *Pileus* 4 inches by 7; fleſh 2 to 3 inches thick.—Conſiſts of 1 very large lobe, growing out of the upright trunk of an aſh. It is very thick in proportion to its width. *Pileus*, its upper ſide very convex, of a ſnuff or brown colour, very ſhaggy; it conſiſts of a thick ſkin or coat; border deep, furbelowed, projecting downwards conſiderably below the flat porous ſurface underneath. *Fleſh* woody, tough, *Tubes* near an inch long. *Pores* very minute, bright ſnuff colour. Mr. STACKHOUSE.

VAR. 2. Tubes and pores golden yellow, irregular. Pileus ſhaggy, golden yellow to orange brown.

Bolt. 164.

Tubes ¼ of an inch long. *Pileus* lobed, tiled. *Fleſh* white, leathery. BOLTON.

Grows on the ground, under oak trees.

***** TUBES green.

BOLE'TUS *igniarius*. (LINN.)—Tubes green, grey, red, or brown. Pores yellowiſh changing to red brown, very fine. Pileus ſhaped like a horſe's hoof, ſmooth, blackiſh.— *touchwood*

Fl. dan. 953, *in a younger ſtate*, *Bull.* 82, *and* 491, *E. F. in an older ſtate*; 454 *in its younger ſtates.*—*Schæff.* 137; 138.—*Scop. ſubt.* 22. 1 *and* 2.—*Battar.* 37. *E.*—*Trag.* 940.

Bol. acaulis pulvinatus lævis, poris tenuiſſimis. LINN.

Tubes of different lengths, greeniſh, or greyiſh red brown. *Pileus* grey brown, convex, tiled, center depreſſed. LINN.—*Tubes* very ſlender, equal, colour of tanned leather, in old plants ſtratified, a freſh layer being added every year. *Pileus* very hard, rubbing to a poliſh, marked with concentric bands or ridges, each broad ridge indicating the growth of a year, and 3 or 4 ſmall ones that of the different ſeaſons of the year; varying extremely in colour. *Fleſh* fibrous. M. BULLIARD.—Size, from 2 to 7 or 8 inches over.

Trunks of trees.

Var. 1. Surface not ſo hard, not rubbing to a poliſh. Fleſh like cork, not fibrous.

Bull. 401.—*Bolt.* 80.—*Schæff.* 106.—*Tourn.* 330.

Var. 2. Circular or elliptical and ſtratified in a cylindrical form. Pores downy.

Deſcription and drawing from Mr. Stackhouſe, who found it on cherry trees, Powick, Worceſter.

On various kinds of trees, I have chiefly ſeen it on the cherry and the plumb.

It is made uſe of in Germany and ſome parts of England for tinder. The Germans boil it in ſtrong lye, dry it, and boil it again in a ſolution of ſaltpetre. The Laplanders burn it about their habitations in order to keep off a ſpecies of the Gadfly which is fatal to the young rein deer. It has been uſed to ſtop the bleeding from arteries after amputations. *Phil. Tranſ.* vol. 43. p. 588. For this purpoſe the hard outer part is cut off, and the ſoft inner ſubſtance is beat with a hammer to make it ſtill ſofter. It is beſt when gathered in Aug. or Sept.

tinder *BOLE'TUS *fomenta'rius.* (Linn.)—Tubes ſea green. Pores circular, equal. Pileus white, convex, thick at the edge, uneven.—

Bol. acaulis pulvinatus inæqualis obtuſus, poris teretibus æqualibus glaucis.

Exactly reſembling a horſe's hoof, white above, hardly villoſe. Pores numerous, roundiſh. Serves for tinder. Linn.

Trunks of trees. Jan.—Dec.

β Huds.—Colour uniform. Ray ſyn. 24. n. 15.

On the trunk of an elm tree.

This is inſerted as Engliſh on the authority of Mr. Hudſon.

1327. HYD'NUM.

Fungus horizontal, hedge hogged underneath, with awl-ſhaped fibres.

Ess. Char. *Fungus horizontal, hedge hogged underneath.*

Obs. Theſe awl-ſhaped bodies which Linnæus compares to the prickles of a hedge hog, are ſolid, conical, or cylindrical ſubſtances, emitting ſeeds from every part of their ſurface. Bulliard.

ear-picker HYD'NUM *auriſcalp'ium.* With a ſtem. Pileus ſemi-circular, Linn.—*ſometimes circular.* Lightf. 1042. *Curt.*

Curt. iii. 32.—*Bolt.* 90.—*Schæff.* 143.—*Roſe* 3. 2.—*Mich.* 72. 8, *cop. in Gled.* 3. *Boletus f.* 5.—*Buxb.* i. 57. 1.—*Buxb. hal.* 1. *row* 2. 3, *p.* 129.

May it not be only a variety of H. imbricatum. LINN.—This elegant little plant which is excellently deſcribed by Curtis, is conſtantly to be found in Norfolk and Suffolk, in pine groves on a gravelly ſoil, of a ſufficient age to bear cones plentifully. On theſe, in a ſtate of decay, and on no other part of the plant have I found this Hydnum. Mr. WOODWARD.—*Stem* ſolid, brown, tapering upwards, rather hairy, 1½ to 2 inches high, thick as a crow quill. *Pileus* kidney ſhaped, brown, faintly marked with concentric ſtripes, ſomewhat hairy, from 1-3d to ¼ of an inch over. *Prickles* greying, conical, pointed.

Under fir trees at Pendarvis, Cornwall. Mr. STACKHOUSE.—On old rotten cones, and decayed branches and leaves of firs lying half buried in the ground. In a ſmall plantation of Scotch pines, called, Hardy's Grove, near Norwich. ROSE, *ib.*—[Pine Groves, frequent. Mr. WOODWARD.] Sept. Oct.

HYD'NUM *coralloi'des.* (SCOP.)—Stem whitiſh, very much branched. Branches flatted, the ends bent down. DICKS. 19. *coral*

Fl. dan. 450.—*Bull.* 390.—*Schæff.* 142.—*Mich.* 64. 2.—*Cluſ. app. alt.* 18, *repr. in Ger. em.* 1582. 4; *and cop. in Park.* 1323. 24; *and imit. in Sterb.* 27. G, *at p.* 244, *and poſſibly in Barr.* 1256, 1257?

Large, ſitting, tufted and branched, yellow white, not leathery. Prickles ſlender; branches towards the ends pendant. When young very like a cauliflower. BULLIARD.—Stem branched, fleſhy, white; branches roundiſh, thick, nearly horizontal, dividing into other ſmaller branches, the extremities very much ſub-divided. *Pileus* none. *Prickles* awl-ſhaped, crooked, parallel and bundled. SCHÆFF.

Hollow trunks of trees near Uxbridge. Aug.

HYD'NUM *erina'ceus.* (BULL.) — Almoſt ſtemleſs, heart-ſhaped, pendant, whitiſh. Prickles tiled, at the ends awl-ſhaped, yellowiſh brown. DICKS. ii. 24. *hedge-hog*

Bull. 34.—*Buxb.* i. 56. 1.

Pileus convex, whitiſh, or yellowiſh, not leathery, 1 to 3 inches over. *Prickles* very long, yellowiſh, tiled, hanging down to the depth of 2 or 3 inches. Generally ſitting, but ſometimes when growing in a deep cleft, its baſe is elongated ſo as to form a kind of ſtem. BULLIARD.

On old trees.

flower HYD'NUM *floriformc.* (SCHÆFF.)—Stem black at the baſe, woody or leathery. Pileus turban-ſhaped, velvety, purpliſh.—

Schæff. 146, *and* 147. *f.* 2—6.—*Bull.* 453. 2.—*Mr. Woodward alſo authoriſes me to refer to the following figures.—Batſch.* 221. 222. —*Mich.* 72. 4. 7.—*(Bull.* 156, *ſeems to be only a variety of this ſpecies.)*

Stem ſwollen at the baſe, covered with a thick woolly down, and blackiſh; ſubſtance like cork, very elaſtic when preſſed. Frequently 2 or more plants united at the ſtem and ſometimes the pileus's are alſo united. *Pileus* at firſt flat, or very ſlightly convex, afterwards concave, covered with a fine down reſembling velvet to the eye and to the touch; of a fine aſh colour, ſoon turning to reddiſh purple, and at length black. *Prickles* ſhort, numerous, covering the inverſely conical body of the pileus quite to the ſtem. Mr. WOODWARD.—Firſt publiſhed as an Engliſh plant by Mr. Dickſon, faſc. 1. 19, to whom it was communicated by Mr. Woodward.—The general ſhape is conical, ½ to 1 inch diameter at the bottom, and 1½ to 3 inches over at the top. *Stem* red brown. *Pileus* when young, lopped, white, ſet with ſhining particles; when older convex but flattiſh, aſſuming a gold colour, at length concave and ſcaly. *Prickles* tiled, pale red. SCHÆFFER.

Earſham wood, Bungay, Suffolk, but rare. Mr. WOODWARD.

common HYD'NUM *imbricatum.* Prickles pale red brown. Pileus red brown with darker ſcales. Stem pale red brown or browniſh white.—

Hydn. ſtipitatum, pileo convexo imbricato. LINN.

Pileus pale fleſh colour; unequal. *Prickles* whitiſh, *Stem* ſmooth, whitiſh, fleſh colour.

Bull. 409.—*Fl. dan.* 176.—*Schæff.* 140.—*Hedw. th.* 37. 212, *a magn. prickle,* 213 *ſeeds,* 214 *threads with chives from the ſtem.* —*Pet. gaz.* 92. 16.—*Batſch.* 43.

Prickles red yellow. *Pileus* convex, fleſhy, pale brown, depreſſed in the center, ſcaly; ſcales blackiſh, raiſed, pointed. SCHÆFFER.

VAR. 1. Pileus, edge turned inwards. Stem whitiſh.

Schæff. 273.

VAR. 2, Prickles whitiſh. Pileus pale fleſh colour, ſmooth.

Mich. 72. 2.

Pileus pale fleſh colour, unequal. *Prickles* whitiſh. *Stem* ſmooth, white with a tinge of fleſh colour. *Fl. ſuec.*

Woods near Maidſtone, Kent. [About Bungay, not uncommon, Mr. WOODWARD.]

HYD'-

HYD'NUM *repan'dum*. Prickles and pileus browniſh yellow. Stem paler. Pileus convex, ſmooth, waved at the edge.— *ſmooth*

Hydnum ſtipitatum, pileo convexo lævi flexuoſo. LINN.

Bull. 172.—*Bolt.* 89.—*Scheff.* 318 *and* 141.—*Fl. dan.* 310.—*Mich.* 72. 3.—*Vaill. par.* 14. 6. 7. 8, *which the drawings diſtinctly ſhew to be a Hydnum.*

Pileus often 6 or 7 inches diameter, with a ſhort ſtem, exactly reſembling the figure of Bulliard. Mr. WOODWARD.—Firm, fleſhy, brittle, tawny yellow. Stem ſhort, whitiſh. Pileus convex, waved at the edge. BULLIARD.—*Prickles* bright cinnamon colour, ſlanting, ſometimes cloven, ſoft and brittle. *Pileus* flat, ſmooth, cinnamon colour. Fleſh white. *Stem* often faſciculated, pale cinnamon, cylindrical. BOLTON.—*Pileus* depreſſed in the center, crooked, much bent down at the rim, leathery, dirty white or buff. *Stem* lateral, crooked, ſhort, horizontal or inclined. *Prickles* numerous, crooked, decurrent, browniſh. Mr. STACKHOUSE.

Woods about Bungay, not uncommon. Mr. WOODWARD.—Near Haughwood, Herefordſhire, in a hollow road. Mr. STACKH. Sept.

VAR. 1. Prickles white. Pileus and ſtem yellow white.

Bolt. 88.

Prickles 1 to 4 lines in length. *Pileus* ſmooth, convex, ſometimes lobed and gaſhed at the edge, fleſhy, brittle, about 3 inches over. *Stem* 3 inches high, ½ to ¼ inch diameter; brittle. BOLTON.

In a deep narrow lane near Halifax. Sept. Oct.

HYD'NUM *min'imum*. (BOLT.)—Sitting, tawny, woody; prickles upright.— *leaſt*

Bolt. 171.

Semi-globular, adhering by its baſe to rotten wood, ſolitary or crowded, dry, tough, leathery or woody, grey with age, 1-10th to ½ inch over. Fleſh white. BOLTON.

On a piece of rotten oak.

1330. HELVEL'LA. Turban-top.

A FUNGUS ſmooth above and underneath.

Ess. CHAR. Smooth on both ſides. Seeds on the under ſurface.

agaric-shaped HELVEL'LA *agaricifor'mis.* (BOLT.)—Stem cylindrical, white. Pileus hemiſpherical, white.—

Bolt. 98. 1.

Stem ½ an inch high, not thicker than a pin. *Pileus*, the ſize of a rape ſeed. Grows ſingle or in cluſters. BOLTON.

Woods in moiſt and ſhady parts about the roots of trees, under moſſes. About Halifax.

curled HELVEL'LA *mi'tra.* Stem ſemi-tranſparent, ribbed, grooved. Pileus, lobes growing to the ſtem.—

Helvella pileo deflexo adnato lobato difformis. LINN.

Bull. 466 *and* 190.—*Schæff.* 154, 282, 162, 160, 161, 159, 322.—*Fl. dan.* 116 *and* 835.—*Mich.* 86. 7 *and* 8, *cop. in Gled.* 2. *Elvela f.* 3.—*Battar.* 3. *B, G.*

When old turns quite black, which is the reaſon why Schæffer has figured it ſo many times. Mr. WOODWARD.—It is extremely variable, the ſtem from ½ to 2 inches diameter, from 1½ to 4 or 5 inches high; the colour from that of colourleſs horn to pearly, to brown and almoſt to black. The pileus not leſs variable in ſhape and ſize than the ſtem. The ſpecimens before me may be deſcribed thus: *Stem* or rather a bundle of ſtems, about 3 inches high, nearly pellucid; connected together by places, often ſerpentine, ribbed and grooved; from 1 to 2 inches diameter. *Pileus* covering ſeveral ſtems united together, rather browniſh, thin; brittle and tender; hanging over. Its under ſurface ſeems granulated, and is of a pale brown.

Near Bungay, but rather rare. Mr. WOODWARD.—Cloſe to the wall by the upper Stew, at Edgbaſton. Aug.—Nov.

ſtriated HELVEL'LA *caryophyllæ'a.* (DICKS.)—Almoſt ſitting, leathery, in cluſters. Pileus funnel-ſhaped, cut at the edge, brown, with flock-like radiated ſcores.—

Bull. 483. 6. 7. *and* 278.—*Schæff.* 325.—*Batſch.* 121.—*Willd.* 7. 15.

Grows ſolitary or in cluſters; leathery. *Pileus* funnel-ſhaped, brown, marked with concentric circles and radiating lines of darker and lighter ſhades of colour, variouſly cut and jagged at the edge, nearly 1 inch over. *Stem* tapering downwards, ſolid, brown, often crooked, thicker and lopped at the root, frequently eccentric, 1-3d of an inch high, half as much in diameter. SCHÆFFER.

On the ground in plantations of firs near Bungay, Suffolk. Mr. WOODWARD *in Dickſ.*—[Near the ground on the inſide of a turf wall incloſing a plantation of firs near Ampthill, Bedfordſhire, oppoſite Lord Oſſory's park on the right of the road to Wooburn. Mr. KNAPP.]

HEL-

HELVEL'LA *cartilagin'ea.* (BOLT.)—Stem very short. Pileus convex, flattish, scarlet, smooth.— *gristly*

Bolt. 101. 1.

This plant is firm, gristly, semi-pellucid; the colour deep orange, or scarlet. *Stem* solid, very short. *Pileus* smooth, rather slippery; border thin. BOLTON.

On old walls and rocks among moss.

HELVEL'LA *sarcoi'des.* Almost stemless. Pileus of various shapes, purple.— *purple*

Bolt. 101. 2.—*Schæff.* 323 *and* 324.—*Jacq. misc.* ii. 22.—*Bull.* 499. 5.—*Batsch.* 53.

Gelatinous; generally growing in clusters. *Stem* very short, solid, varying much in shape, purplish; sometimes none. *Pileus* purple, variable, hemispherical, or funnel-shaped, or like a flower; lobed, or plaited, or curled. SCHÆFFER.—This dubious plant has been arranged by different authors as a Lichen, as an Helvella, as a Peziza, and as a Tremella. Not having particularly examined it I submit its situation to the opinion of Mr. Dickson, not however without a disposition to believe that M. Bulliard will be found right, in considering it as a Tremella.

On rotten wood. Apr. DICKSON.

HELVEL'LA *clava'ta.* (SCHÆFF.)—Plant yellow. Pileus sloping. Stem somewhat compressed. DICKS. 1. 19. *club*

Schæff. 149.—*Mich.* 82. 2.—*Vaill.* 13. 7. 8 *and* 9.

Plant soft, fleshy, solitary or in clusters. *Pileus* yellow, oval, compressed, slanting, uneven at the edge, near 1 inch long and ½ an inch broad. *Stem* solid, yellow, swollen at the base, tapering upwards, 1½ inch high, 1-3d inch diameter at the base, 1-6th at the top. SCHÆFFER.

Woods in Autumn.—Pendarvis, Cornwall. Mr. STACKHOUSE.

HELVEL'LA *au'rea.* (BOLT.)—Stem short, yellow. Pileus umbrella-like, gold coloured.— *golden*

Bolt. 98. 2.

Stem 1-10th to 2-10ths of an inch high, tapering downwards, solid. *Pileus* convex, flattish, thin at the edge, golden yellow above, paler underneath, ¼ of an inch over. The plant is brittle, watery and semi-pellucid. BOLTON.

Woods in moist watery places on sticks and stems of plants.

HELVEL'LA *fibulifor'mis.* (BOLT.)—Stem short, black. Pileus rather convex, yellow; dusky black underneath.— *button*

Bolt.

Bolt. 176.

Stem ſolid, firm, a line in length. *Pileus* gently convex, but flat at the top, hard, ſmooth, ſlippery, hardly ¼ of an inch over. Bolt.

On a branch of the root of an elm within reach of the ſprinklings of a ſtream.

verdigris HELVEL'LA *æruginoſa.* (Oeder.) *fl. dan.* ix. 7. —With a ſtem; very ſmall, bright green. Pileus of various ſhapes. Dicks. ii. 24.

Fl. dan. 534. 2.

Hardly a quarter of an inch in height.

On rotten wood.

ſooty HELVEL'LA *fuliginoſa.* (Schæff.)—Stem hollow, greyiſh. Pileus inflated, angular, plaited, blackiſh.—

Bull. 242.—*Bolt.* 95.—*Schæff.* 320.

Stem duſky white, or greyiſh, hollow, uneven, twiſted and furrowed, 2 to 4 inches high, thick as a gooſe or raven quill. *Pileus* pale olive to dark ſooty colour, brittle, thin, very irregular in its ſhape, depreſſed into angles and lobes, 1 to 2 inches over. Schæff. Bolt. Bull.—*Stem* ſlenderer than in the H. mitra, not cavernous or wrinkled, elaſtic, ſoft. Grows many together. Pendarvis, Cornwall. Mr. Stackhouse.

Moiſt woods and hedges, not common.

plain HELVEL'LA *plana.* Pileus flat, livid. Stem ſmooth. Huds. 633.

Woods. Aug.—Oct.

AURICULA'RIA.

Ess. Char. Flat, membranaceous, fixed by its whole under ſide, but becoming detached and turning up with age. Seeds diſcharged ſlowly from what was the upper, but is now in its ſtate of maturity the under ſurface.

Obs. Theſe plants when young lie flat and are cloſely attached to the ſubſtance on which they grow, the upper ſurface being ſmooth, but the under ſurface ſhaggy with hairs which ſerve the purpoſe of radical fibres. After ſome time the attachment formed by theſe fibres looſens, and the plant turns up more or leſs, but remains ſtill attached in ſome one part, either central or lateral. The ſmooth upper

upper ſide is now become the under one; and from this the ſeeds are diſcharged. The fibrous ſurface, now uppermoſt, continues ſhaggy or woolly, often becomes ſtreaked or zoned in concentric ſtripes, and frequently aſſumes a variety of colours. A proceſs ſimilar to this takes place in ſome of the ſtemleſs Agarics and Boleti, as mentioned before.

AURICULA'RIA *ferrugin'ea.* (BULL.)—Perennial, leathery, thin, zoned above, ſmooth underneath, but pimpled; brown ruſty red.— *ruſty-red*

Bull. 378.—*Bolt.* 82. *d.*—*Mich.* 66. 2.

Grows very much tiled. The zones more apparent on the upper than on the under ſurface, about 1 or 1½ inch wide, and half as much in breadth. M. Bulliard obſerves that if a portion of the under ſide be diſſected from the upper coat, it appears perforated in the microſcope.

Helvella rubiginoſa. DICKSON.

RAY ſyn. p. 22. n. 5, who deſcribes it as 6 inches wide and 2 broad.

Common on old pales, &c. near the ground. P.

AURICULA'RIA *nicotia'na.* (BOLT.)—Annual, thin, flexible, curled and lobed at the edge; pale ruſt colour, with a yellow border.— *tobacco*

Bolt. 174.

From 1 to 2 inches over; nearly flat. *Upper ſurface* ſoft, ſmooth, but uneven. *Under ſurface* veined, wrinkled, naked. BOLTON.

On dry wood, and decayed branches of trees. Feb.

AURICULA'RIA *papyri'na.* (BULL.)—Annual, membranaceous, ſoft, zoned and woolly above, ſmooth underneath, but pitted when old. *buffy*

Bull. 402.

It varies greatly in ſize according to its age, from 1 to 4 or 5 inches over. When young the edges are fringed, when old ſcolloped and lobed. The upper ſurface is greyiſh white, the under buff coloured and cellular. BULLIARD.

Mr. Robſon, of Darlington, authoriſes me to inſert this as an Engliſh ſpecies.

On the decaying trunks of trees.

AURICULA'RIA *cortica'lis.* (BULL.)—Leathery, thin, ſmooth, white above, pale brown underneath.— *ſtick*

Bull. 436. 1.

Spreading flat on the dead ſticks to which it adheres; brown white, ſoft to the touch, pitted or puſtular almoſt like ſome of the foliated Lichens. The pile on the under ſurface by which it adheres, brownish. The edges turn up on every ſide, ſo that when its figure is circular it appears raiſed and fixed by its center like a ſtemleſs Peziza. The circular pieces from ¼ to ½ inch diameter; the oblong ones from ½ an inch or more in width, to 5 or 6 inches in length.

On decaying peaſticks lying on the ground, not uncommon. Aug.

woolly AURICULA'RIA *reflex'a.* (BULL.)—Perennial, leathery, thin, woolly and zoned above, ſmooth underneath. —

Bull. 274 *and* 483. 1. 2. 3. 4.—*Bolt.* 82. *a. c. b. e.*

Subſtance tough, cutting like hard leather, or cork. Often grows tiled. *Upper ſurface* like pluſh, varying from pale buff to deep yellow, when fully grown marked with zones of various colours, as green, grey, buff, yellow, purple, brown. *Under ſurface* (whilſt young, the upper one) ſmooth, varying in colour from pale buff to deep yellow. From 1 to 2 inches wide, and about half as much in breadth. From the ſtems of graſs and other ſubſtances with which it is often perforated, it is clear that it muſt have had a gelatinous conſiſtence in its younger ſtate.

RAY ſyn. p. 21. n. 2.

Helvella villoſa. RELHAN.—Boletus auriformis. BOLTON.—Helvella acaulis. HUDSON.

H. pineti. Linn. is a different plant. Does not perhaps agree *very* well with the genus Helvella, but as it has no appearance of *pores* even when magnified it has no pretenſions to be arranged as a Boletus. Mr. WOODWARD.

On ſtumps of trees and rotten wood. [On old ſtumps of trees in woods, frequent. Mr. WOODWARD.] P. Jan.—Dec.

gelatinous AURICULA'RIA *tremelloi'des.* (BULL.)—Perennial. Subſtance cartilaginous but gelatinous; woolly, ſpongy, grey brown above, ſmooth, pitted, violet coloured underneath. —

Bull. 290.—*Bolt.* 172.—*Mich.* 66. 4.

M. Bulliard obſerves that though it is moſtly a portion of a circle, yet ſometimes the two edges unite, forming a cornucopia. Moſtly about 2 inches one way, and half as much the other. — Mr. Bolton obſerves that his ſpecimens were not cellular on the outſide as repreſented by M. Bulliard. — Variouſly ſcolloped, of a dull violet ſcent not diſagreeable, ſomewhat reſembling that of the Morell. RAY.— The under ſurface often with a bloom of a pale blue like that on

plumbs. Gelatinous underneath. Mr. KNAPP. — Begins growing with the ſmooth ſurface upwards, but the edge afterwards turns over, and then it grows tiled to a great extent, in the manner of Boletus verſicolor. It is a very common plant, and though mentioned by Ray, is not noticed in Hudſon. Mr. WOODWARD.

Helvella meſenterica. DICKSON. — Tremella corrugata. RELH. n. 898, according to Mr. Dickſon faſc. ii. 28.

On rotten wood and ſtumps of trees. [On the earth at the edges of ſawpits, and at the bottom of gate poſts. Mr. KNAPP.]

A. Jan.—Dec. RELH.—Oct. Nov. Mr. KNAPP.

PEZI'ZA.

Ess. CHAR. Concave. SEEDS on the upper ſurface only; diſcharged by jerks.

A. With STEMS.

PEZI'ZA *niv'ea*. (DICKS.)—Stem very ſhort. Pileus ſnow white, funnel-ſhaped. HALL. n. 2. 239. *nowy*

Hedw. ſtirp. ii. 22. *B.*—*Mich.* 86. 15.

The young plants with their ſnow-white ſoft hairs contracted into a kind of globe reſembling a Clathrus. DICKSON.—Not bigger than half a hemp ſeed, and ſnow white. Mr. STACKHOUSE. — About 1-10th of an inch in height, and the pileus nearly as much in breadth.

On trunks of dead trees. DICKSON. — Rotten wood and ſticks. RELH.—[On moſs on the trunks of apple trees; Powick, Worceſter. Mr. STACKHOUSE.] Aug.—Sept.

PEZI'ZA *punctа'ta*. Turban-ſhaped, topped, the diſc of the pileus dotted. LINN. *dotted*

Bull. 252.—*Bolt.* 127. 2.—*Fl. dan.* 288.

Seeds contained in pores, from whence they are thrown with an elaſtic force. GLED. cited in Linn. ſuec. n. 1275.—The black dots conſiſting of ſeeds immerſed in the ſubſtance of the plant. LINN.—*Stem* black, ¼ to ½ inch high, tapering downwards. *Pileus* an expanſion of the upper part of the ſtem, concave, white, with black dots, ¼ to ¾ inch diameter. Subſtance dry, tough and elaſtic. BULL. BOLT. — Mr. Woodward thinks this may more properly rank as a Sphæria; and obſerves that it is very common about Bungay.

On horſe and cow dung, and dry dung-hills.

May—Oct. HUDS.—Winter and Spring. BOLT.

PE-

cup PEZI'ZA *acetab'ulum.* Stem ſhort. Pileus glaſs-ſhaped; angular on the outſide; with branching veins.—

Bull. 485. 4.—*Vaill.* 13. 1.—*Mich.* 86. 1.—*(Schæff.* 150, *and* 155, *are P. cochleata;*—156 *is a different ſpecies.)*

The largeſt of the Genus; thin, brittle, ſmooth, tranſparent like wax. *Stem* woody, brown, ſhort, branching up the baſe of the pileus, ſolid, nearly half inch long, and ¼ diameter. *Pileus* 2 or 2½ inches over, greatly cupped ſo as to reſemble a goblet or bowl, ¾ to 1¼ inch deep, waved at the edge, red brown within, pale brown without. Sometimes without the angular branchings from the root. BULLIARD. — Nearly allied to P. cochleata, the external veins and the regular form conſtituting the principal differences. It grows near Bungay, but is not ſo common as the P. cochleata. Mr. WOODW.

On rotten wood in hedges and woods, rare. Sept.—May.

ſtalked PEZI'ZA *ſtipita'ta.* (HUDS.) — Stem cylindrical. Pileus ſlightly concave, brown, hairy on the outſide.—

Bolt. 96.—*Schæff.* 167.—*Bull.* 196.

Mr. Bolton's figure well as to its habit, but the hairineſs on the outſide not expreſſed. Mr. WOODWARD.—*Stem* ſolid, brown, 2 to 3 inches high; thick as a crow or a gooſe quill, rather tapering upwards. *Pileus* thin, brittle, ſemi-tranſparent, brown, gently concave, woolly on the outſide, 1 to 2 inches over.

Woods near Guildford. HUDS.—Woods below Highfield 3 miles from Halifax. Sept.

tuberous PEZI'ZA *tubero'ſa.* (DICKS.)—Stem growing at the baſe to a blackiſh fungous tuberous ſubſtance. Pileus nearly bell-ſhaped, brown without, paler within.—

Bull. 485. 3.—*Hedw. ſtirp.* ii. 10. *B.*

Stem unequal, buried up to the head within the ſoil. DICKS.—One to 2 inches high, thick as a crow quill, pale buffy brown. *Pileus* funnel-ſhaped, buffy brown within, darker brown on the outſide, 1-3d of an inch high, and ¼ or more in diameter. *Root* fixed to a black brown maſs, ſeemingly a dead root of the Anemone nemeroſa. HEDWIG.—*Stem* 1½ inch high, rather thinner than a crow quill. *Pileus* wide funnel-ſhaped, ¾ of an inch over. BULLIARD.

In graſſy ſpots in woods, near London.

rooted PEZI'ZA *radica'ta.* (DICKS.)—Stem ſlender, tapering downwards; Pileus brown, hemiſpherical, ſmooth. Root ſimple, with minute fibres.—

Bull. 485. 2.—*(Reichard, in Beſch der Berlin. geſellſch.* 3. *p.* 214. *t.* 4. *f.* 4, 5. 6, *on the authority of Mr. Dickſon.)*

Thin,

Thin, brittle, ſmooth. *Stem* ſlender, ½ inch long, furniſhed with a fibrous root. *Pileus* yellow brown, ½ to 1 inch over, concave, ſhallow. BULLIARD.

In woods, taking deep root in the ground. Sept.

PEZI'ZA *minu'tula*, Stem brown, very ſhort. Pileus brown, nearly flat.— *pin*

Stem not quite 1-20th of an inch in height, and ſlender in proportion. *Pileus* about as much in diameter, nearly flat, the edge a little turned up, not hairy.

On a decaying ſtick, Edgbaſton, 27th Nov. 1790.

PEZI'ZA *cupula'ris*. Stem very ſhort and thick. Pileus more than ſemi-globular, bell-ſhaped, pale buff, ſcolloped at the edge.— *ſcolloped*

Bull. 396. 3.—*Vaill.* 11. 1. 2. 3.—*Mich.* 86. 2.

The diſtinguiſhing marks of this ſpecies, are the ſcolloped edge, and the greyiſh colour of the outer ſurface. Mr. WOODWARD.—*Stem* ¼ of an inch high, and half as much in diameter. Sometimes there is no ſtem. *Pileus* pale buff, thin, tranſparent, ſcolloped at the edge, ſhaped like the cup of an acorn; about 1 inch diameter.

Shrubbery, in moſſy turf by the ſide of the gravel walk, near the houſe at Edgbaſton, Sept.

PEZI'ZA *undula'ta*. (BOLT.)—Stem hollow, gradually expanding into a funnel-ſhaped pileus, red yellow and veined on the outſide, rich brown within.— *waved*

Bull. 461.—*Schæff.* 157. 2.—*Bolt.* 105. 2.—*Mich.* 82. 2.—*Vaill.* 13. 7. 8. 9.

Plant about 1¼ inch high. Pileus ¼ of an inch over, marked with a few almoſt imperceptible veins on the outſide, ſmooth within, waved and curled at the edge. BOLTON.—Schæffer has figured this plant extremely well, and calls it an Helvella; but out of the numerous figures in the 157th plate, Mr. Bolton refers only to fig. 2, though Schæffer makes no diſtinction. Batſch refers to Schæffer's plate, without reſtriction, as his Agaricus aurora, which he himſelf has figured, though indifferently, pl. 9. f. 36. Bulliard calls it Helvella tubæformis, and makes alſo an unlimited reference to Schæffer 157. The plants repreſented by M. Bulliard are much larger than thoſe of Mr. Bolton, and the gill-like veins much more diſtinctly marked. The plant of Micheli, who alſo refers to Vaillant, as above, is deſcribed as having a greeniſh pileus, ſo that it is probably a variety. On the whole I believe this ſpecies is neither an

Agaric,

Agaric, an Helvella, nor a Peziza, but more properly belongs to the Genus Merulius.

In woods, but not common. Oct.

ſcarlet PEZI'ZA *coccin'ea.* Stem buff. Pileus glaſs-ſhaped, crimſon within, buff on the outſide.—

Bull. 467.—*Bolt.* 104.—*Walcot, P. cyathoides.*—*Jacq. fl.* 163.—*Battar.* 3. *N. O.*—*Penn. Wales.*—*Mich.* 86. 5.

Root ſhort, white within. *Stem* ſolid, from 1-10th to ½ inch high; thick as a crow or a gooſe quill. *Pileus* thin, cupped, rather elaſtic, but brittle, deep carmine colour within, buffy underneath, with mealy granulations.

Peziza epidendra. BULL.

On rotten ſticks in woods and wet hedge bottoms. [With a North or Eaſt expoſure. Mr. WOODWARD.] Spring—Autumn.

VAR. 1. Irregularly cupped, border waved, ſcarlet within, buffy or whitiſh brown on the outſides, ſtem none, but a hard, black knotty root.

Bull. 474.—*Bolt.* 100.—*Schæff.* 148.—*Fl. dan.* 657. 2.—*Batſch.* 158.

Shaped like a butter-boat. Mr. STACKHOUSE.—This plant is moſt excellently figured by Bolton. The colour is uſually a bright deep orange above, and a dirty orange or yellow beneath, in which it differs from Bolt. 104, which is always a rich ſcarlet within, and white and ſilvery without. It differs alſo in being irregular in ſhape, never cup-ſhaped, except when very young, whilſt the other is always exactly cup-ſhaped, and ſtands on a ſhort pedicle. Whether Mr. Hudſon's cyathoides be the elegant and very uncommon plant figured by Bolton 104, ſeems doubtful, neither Dillenius's fig. nor ſhort deſcription in the Synopſis at all elucidate the matter, and it certainly can never be called yellow. The firſt of theſe is rather ſcarce, but the other is very common on decayed ſticks under hedges in the ſpring. Mr. Bolton is certainly miſtaken in aſſerting that his 104 never emits any powder from its internal ſurface, for I have repeatedly by a ſlight irritation, cauſed the mature plants to throw out clouds of ſmoak. It ought, therefore, according to his principles, to have been placed with the Helvellæ. Mr. WOODWARD.—Thinner, more ſpreading and more irregularly cupped than the preceding; ſometimes quite ſitting, with a ſmall, nearly central root; ſometimes the root a pretty large black knob, and ſometimes it forms a ſhort ſtem.

Hevella coccinea. BOLT.—Peziza coccinea. BULL.

On

On the ground, amongſt gravel and road ſides; when it reſembles the moſt ſeſſile of the figures. I once found it on the ſtump of a tree, with more of a ſtem and leſs ſpread out, forming the connection between the two varieties.

Malvern Hill, and Coplar Hill, amongſt wet moſs. Mr. STACKH. Oct.

PEZI'ZA *tu'ba*. Stem thread-ſhaped; border flat. Plant yellow.— *trumpet*

Bolt. 106. 1.

See Merulius tubæformis.

PEZI'ZA *inflex'a*. (BOLT.)—Stem crooked. Pileus funnel-ſhaped, fringed at the edge, pale buff.— *bended*

Bolt. 106. 2.—*Mich.* 86. 13.

Stem white, pellucid, always bent. *Pileus* pale buff within, funnel-ſhaped, fringed at the edge. Whole plant about ½ an inch high. BOLTON.

On rotten vegetables in damp places in woods and about rivulets.

PEZI'ZA *ochroleu'ca*. (BOLT.)—Stem black at the bottom. Pileus funnel-ſhaped, dirty yellow within.— *yellowiſh*

Bolt. 105. 1.

Plant hard and leathery. *Stem* ſolid, black below, duſky yellow above, near ½ inch high, thick as a large pin. *Pileus* funnel-ſhaped, ochrey yellow within, ſmooth, even at the edge, about ¼ of an inch over. BOLTON.

Near Halifax in ſeveral places.

PEZI'ZA *cyathoi'des*. Stem ſhort. Pileus yellow, glaſs-ſhaped, border blunt, upright.— *ſmooth*

R. ſyn. 24. 4, *at p.* 478.

Stem very ſhort. *Pileus* flattiſh, but ſlightly concave, yellow, border ſmooth. RAY ſyn. p. 18. n. 8.

On rotten wood. Aug.—April.

PEZI'ZA *calyc'ulus*. (BATSCH.)—Stem rather long, ſtrap-ſhaped, firm, diſtinctly inſerted. Pileus concave, hemiſpherical, expanding.— *little-cup*

Bull. 416. 3.—*Hedw. ſtirp.* ii. 9. *C.*—*Batſch.* 57.—*Mitch.* 86. 14.

The whole yellow. *Stem* 2 lines long. *Pileus* 2 lines wide. RELHAN.—Its colour varies in different ſhades of yellow, and its pileus is either nearly flat, or cupped in various degrees of hollowneſs.

neſs. The figure of Bulliard is excellent, and he well obſerves that it grows upon the annual ſhoots of branches.

On rotten wood in Madingley plantations. Auguſt.—On half rotten ſticks, Edgbaſton. Oct.—On rotten wood. Nov. Dec. Mr. KNAPP.

hornbeam PEZI'ZA *fructig'ena*. (BULL.)—Stems ſlender, tapering. Pileus ſlightly concave; pale yellow.—

Bull. 228.—*Batſch.* 150.

Opake, leathery, fleſhy, funnel-ſhaped. *Stem* ¼ to ½ inch high, tapering downwards, often bent in different directions. *Pileus* 1-10th to 1-4th inch diameter, funnel-ſhaped, but the hollow above not deep on account of the thickneſs of the fleſh.

M. Bulliard ſays he only finds it on the coriaceus fruits, as acorns, cheſnuts, &c. and Batſch ſays his grew on the ſeeds of a hornbeam; but though the fruit of ſuch trees may be its more common nidus, I found it growing in large cluſters on a rotten ſtick in the month of Oct. 1791. Mr. Relhan informed me, that he had found the plant of Batſch in Madingley wood, but omitted to ſay on what it grew.

B. STEM-LESS.

pinky PEZI'ZA *al'bida*. Stemleſs. Pileus pinky white, ſaucer-ſhaped, quite ſmooth.—

From ¼ to ¼ of an inch diameter; whilſt ſmall ſhaped like a goblet, when full grown flat at the bottom but the edge always turned up like a ſaucer; perfectly ſmooth, thin, ſemi-tranſparent, watery white, with a tinge of pink within.

On the cellar floor at Greenbank near Birmingham, in the joints of the bricks. Sept.

eyelet PEZI'ZA *margina'ta*. (RELHAN.)—Stemleſs. Pileus concave, browniſh; edge flat, ſomewhat ſcolloped, ſnow white.—

Fl. dan. 779. 1.

Very beautiful, when viewed by the naked eye very much reſembles the ſaucers of *Lichen ſubfuſcus*, but examined with a microſcope it reſembles the eyelet holes of ſtays. RELH.—From this deſcription I had ſuppoſed it might be the work of an inſect, ſimilar, except in colour, to one which is frequently found upon oak leaves, but on ſtating this doubt to Mr. Relhan, he very obligingly ſent me ſpecimens which at once convinced me it was a plant. It is not larger than the head of a pin.

On

On decayed wood at Whitwell, near Coton, Cambridgeſhire. Sept. Oct.

PEZI'ZA *Auricula.* Stemleſs: Pileus brown, concave, wrinkled, ſhaped like an ear.— *Jew's ear*

Bull. 427. 2.—*Clus.* ii. 276, *repr. in Ger. em.* 1581, *(miſprinted* 1481.*)* 1, *and cop. in J. B.* iii. 841. 1, *and Sterb.* 27. *H. H. at p.* 244.—*Blackw.* 334.—*Mich.* 66. 1, *the right hand fig. cop. in Gled.* 2, *the upper middle fig.*—*Battar.* 3. F.—*Gars.* 115. B. —*(Vaill.* 11. 8, *is P. cochleata.)*

This is either a Peziza or Helvella, and not belonging to Tremella, which ſhould be perfectly gelatinous. Mr. WOODWARD.—Wide ſpreading, 1 to 2 inches over, ſoft but cartilaginous, ſitting, thin, fibrous and downy underneath, cupped, plaited, reddiſh brown. BULLIARD.

Tremella auricula. HUDS.

On rotten wood. [On old elders in gardens at Yarmouth. Mr. WOODWARD.] A. Sept.—May.

VAR. 1. Dark olive colour.

Bolt. 107.

One to 4 inches over. Smooth above; granulated underneath. BOLTON.

On a willow tree. Feb.

PEZI'ZA *cochlea'ta.* Stemleſs; Pileus thin, brittle, brown, large, concave, irregular, the ſides tearing and curling in.— *wreathed*

Peziza turbinata, cochleata. LINN.

Bull. 154.—*Bolt.* 99.—*Jacq. miſc.* ii. 17. 1.—*Batſch.* 157.—*Schæff.* 274. 155. 150.

Sitting, hemiſpherical, or ear-ſhaped, or ſpoon-ſhaped, dark blackiſh brown above, white underneath, branching veins ſhooting from the center. JACQUIN.—From 1 to 2 inches over, or more, ſemi-tranſparent, the form extremely variable, the edge cooped in, cracking, tearing and then curling inwards. Varies in colour from a dirty ſtraw to brown, and ſometimes purpliſh. Mr. Bolton conſiders it as an Helvella, becauſe it emits its ſeeds in form of ſmoke or powder when irritated, but the Peziza's poſſeſs the ſame property. The real difference between them is, that in the Helvella the ſeeds are ejected from the under, in the Peziza from the upper ſurface, as is well pointed out by M. BULLIARD.—P. cerea 44. Bull. and Helvella veſiculoſa. Bolt. 175. ſeem only varieties of this. Mr. WOODWARD.—I have found it with a ſtem about 1-10th of an inch in length; theſe plants were from ½ to 2 inches over.

Woods, on the ground, or on decayed branches of trees. [On a dunghill near Bath. Mr. STACKHOUSE.—Rookery, Edgbaſton, on the ground.] Sept. Oct.—July.

brown PEZI'ZA *fus'ca.* Stemleſs: Pileus concave, brown, pale at the edge. BOLT. 109.

Bolt. 109. 2.

Adhering by its whole outer ſurface, except the edge which is turned up; thin and of a pale olive colour; from ¼ to near ½ inch over. BOLTON.

In ſeveral places about Halifax, on old dry dunghills.

orange PEZI'ZA *ful'va.* (HUDS.)—Stemleſs: Pileus flat, border turned in, ſmooth, yellow or brown.—

Vaill. 13. 14.—*Bull.* 438. 3. *and* 376. 1.—*R. ſyn.* 24. 2, *at p.* 478, *may be the plant, but it is both figured and deſcribed as having no cavity at all.*

A line broad. RELH. n. 968.

On horſe and cow dung, and on gravelly ſoil. [On the bark of a tree. Mr. KNAPP.—About Bungay, common. Mr. WOODWARD.]

liver-colour'd PEZI'ZA *hepat'ica.* Stemleſs: Pileus dark purple, with a hollow dot in the center.—

Batſch. 138.

Subſtance horny, colour very dark purple or tawny-liver-colour. *Pileus* circular, or kidney-ſhaped, with a hollow dot in the center over where the root is fixed. Not more than 1-20th of an inch over. BATSCH.—Mr. Relhan lately informed me that he had found this ſpecies at Wood Ditton.

In woods on the ground amongſt moſs. Autumn. BATSCH.

vermillion PEZI'ZA *punic'ea.* (BATSCH.)—Stemleſs: Pileus flattiſh, yellow red within, paler on the outſide, edge thick, but little raiſed.—

Batſch. 220.

Subſtance hard and horny, thin, pale red, neither woolly nor hairy, wrinkled on the upper ſurface; brittle when dry.

Found by Mr. Relhan amongſt the leaves of the Bryum murale, on old walls at Ditton, Cambridgeſhire.—On half rotten ſticks at Edgbaſton. 7th Oct. 1791.

hairy PEZI'ZA *ſcutella'ta.* Stemleſs: Pileus flat, orange red, border raiſed, hairy.—

Bolt.

Bolt. 108.—*Bull.* 10, *and* 438. 2.—*Batſch.* 54.—*Hedw. ſtirp.* ii. 3. *A.* 1 *to* 7.—*Schæff.* 284.—*Ray ſyn.* 24. 3, *at p.* 479.—*Vaill.* 13. 13.—*Mich.* 86. 19 *and* 17.

Orange red within, buff on the outſide, hairy at the edge; about about 1-8th or 1-10th of an inch over, when young like a goblet, flatter with age, but the edge ſtill turned up.

On cow dung, common; alſo on rotten wood. Oct.

VAR. 1. Smooth at the edge.

Bull. 438. 3.

Stemleſs; orange coloured, nearly flat, not fringed at the edge, ¼ of an inch diameter.

On cow dung, and amongſt moſs on a clayey ſoil, Edgbaſton, common. Aug.—Sept.

VAR. 2. Pileus woolly and white on the outſide.

Bull. 410. 3.

M. Bulliard obſerves that the Pileus cloſes in dry and opens in wet weather.

Specimen, and a beautiful drawing of it ſent to me by Mr. Knapp, who found it on dead ſticks in a wood in Buckinghamſhire.

PEZI'ZA *veſiculoſa*. (BULL.)—Stemleſs, large, bladder ſhaped, thin, brittle, dull yellow.— *bladder*

Bull. 44, *and* 457. 1.—*Bolt.* 175.—*Schæff.* 280.

Nearly globular when young, the opening at the top enlarging as it grows older, but the edge is always turned in. The root is a dark coloured hard knotty ſubſtance. The plant from 2 to 3 inches diameter, or more, and nearly as much in height; the ſubſtance ſmooth, moiſt, tender, brittle, dull ochrey yellow within, paler without, and the ſurface granulated. BOLTON.—Approaches nearly to the Peziza cochleata, but does not tear like that, and if accidentally torn does not curl in ſpirally, neither does it jerk out its ſeeds like that. BULLIARD.

On the ground on road ſides, or on dunghills.

Spring and Autumn.

PEZI'ZA *lanugino'ſa*. Stemleſs; egg-ſhaped, woolly without, ſmooth and buff within.— *woolly*

Fl. dan. 779. 2.

This grows in large cluſters, each plant when young and about the ſize of a ſmall pea, egg-ſhaped, and entirely covered with pale brown wool on the outſide; the aperture at the top at firſt ſmall, ſmooth, conical. Advancing in growth it becomes more flat, and open, ſo as to form a deep ſaucer-like cup. Subſtance very tough, and cuts

like hard leather. Varies in size from that of a pin's head to ¼ and even half an inch diameter.

Peziza minuta. DICKSON.

On half rotten sticks, Plantations, Edgbaston.

Sept. Oct.

hairy PEZI'ZA *his'pida.* (HUDS.)—Stemless: Pileus hemispherical, brown and rough with hairs without, smooth and sea green within.—

Bull. 204.—*Schæff.* 151.—*Fl. dan.* 656. 1.—*Mich.* 86. 4, *cop. in Gled.* 2, *Elvela, f.* 8.

Stemless, solitary or in clusters, leathery. *Pileus* concave, hemispherical, blue white within, smooth; browniſh and hairy on the outside, uneven and hairy at the edge; about ½ an inch over. SCHÆFFER.—The internal surface nearly white, and perfectly smooth; the external thickly set with short, rigid, browniſh hairs. Frequent near Bungay. Mr. WOODWARD.—Diameter sometimes as much as 2 inches; it is thin, brittle, semi-transparent, nearly flat, but the edge turned up, and cooping in.

Moiſtiſh woods, hedges, and moist rotten wood, and gravel pits.

Sept. Oct.

green PEZI'ZA *vir'idis.* (BOLT.)—Stemless: Pileus concave, green, black at the edge.—

Bolt. 109. 1.—*Bull.* 376. 4.

The size of a large pin's head; dark green, with a thick black border. BOLTON.

On decayed oak leaves, and on rotten wood. Dec.

blue PEZI'ZA *cæru'lea.* (BOLT.)—Stemless: Pileus blue, fringed at the edge.—

Bolt. 108. 2.

Adheres to wet rotten wood by a small central root; bright blue above, paler at the edge, and fringed with soft pale hairs; black and smooth on the outside; about ¼ of an inch over. BOLTON.

Under firs at Burk's Hall near Halifax. Oct.

variable PEZI'ZA *polymor'pha.* (LIGHTF.)—Stemless: Pileus turban-shaped, hollow, flat or convex with age, wrinkled on the outside; black above.—

Hedw. stirp. ii. 6. *E.*—*Batsch.* 50.—*Bull.* 116. 460. 1.—*Fl. dan.* 464.—*Schæff.* 158.—*Hall. enum.* 1. 8, *at p.* 21, *repr. in hist.* 48. 8, *at* iii. *p.* 116. *(Hoffm. veg. cryp.* 2. *b.* 2. *Mr. Woodward.)*

Some

Sometimes ſolitary, more frequently in cluſters. When mature, it emits a very ſubtile black powder in great quantities from its upper ſurface, though Hoffman ſays the ſeeds are emitted from the under ſurface, which is not analogous to any other ſimilar plant. It afterwards becomes more and more dilated and at length plane or even convex with the edge rolled back, and in its lateſt ſtage variouſly wrinkled and deformed. On old trees which have been felled and are lying on the ground; frequent. Mr. WOODWARD. —Very well figured and deſcribed by the authors quoted above. Schæff. 153, alſo ſeems to be the plant in its unexpanded ſtate. The ſubſtance of the plant is very like the Caoutchouc or elaſtic rubber, but it is rather adheſive. The top is black and ſhining like pitch. The figure an inverted cone, ½ an inch high, ¼ of an inch diameter at the bottom, ½ or 1 inch at the top, fleſhy, ſolid, brown on the outſide.

Tremella turbinata. HUDS. 563.

On the trunks and branches of fallen oaks. [On the decayed branches of an oak; in Cornwall. Mr. STACKHOUSE.—On the ſtump of an oak, Hollowayhead-lane, near Birmingham.]

Sept.—April.

PEZI'ZA *a'tra.* Stemleſs; concave, black. HUDS. 637. *black*

On cow dung. HUDS.—On rotten wood. BOLT. Aug.—May.

NIDULA'RIA.

Ess. CHAR. Fungus leathery, bell-ſhaped, ſitting. Capſules large, flat, fixed by pedicles at the bottom of the bell.

OBS. Whilſt the plant is young it contains a clear gelatinous fluid, and its orifice is cloſed with a thin membrane which tearing as the growth advances, the fluid evaporates and the ſeeds, or rather capſules, then become viſible.

NIDULA'RIA *campanula'ta.* Bell-ſhaped; border expanding; ſmooth, ſhining and grey within. Capſules ſmooth.— *bell-ſhaped*

Peziza *(lentifera)* campanulata lentifera. LINN.

Bull. 488.—*Bolt.* 102. 1.—*Schæff.* 180.—*Vaill.* 11. 6 *and* 7. —*Mich.* 102, *cyathoides* 1, *cop. in Gled.* 4 *Pez. f.* 3 *and* 5.—*Pluk.* 184. 9, *cop. in Pet.* 107. 9.—*Battar.* 3, *I. K. L. M.*—*Fl. dan.* 469. 1.—*(Hoffm. veg. cryp.* ii. 8. 2. *Mr. Woodward.)*

Stemleſs; inverſely conical, from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch high, and nearly as much in diameter at the top. Brown on the outſide; dark grey and ſmooth within; the border flanching out. Subſtance leathery. Capſules fixed by threads to the inſide of the bell.—Conſiſts of a grey membranaceous bell ſhaped cup, rather downy on the outſide; its edge entire and reflected. Within it are contained ſeveral compreſſed circular bodies, filled with a gelatinous matter and connected with the cup each by a fine thread inſerted into its flat ſide. When theſe threads are fixed near the edge of the cup, the caſes ſupported by them are found ſuſpended on its outſide. Mr. GOUGH.

Woods, garden walks and fields. [Frequent about Bungay. Mr. WOODWARD.—Coplar Hill, Herefordſhire, plentiful. Mr. STACKH.]

conical NIDULA'RIA *ſtria'ta.* Conical, woolly on the outſide, ſcored within. Capſules woolly underneath.—

Bull. 40. *A.*—*Bolt.* 102. 2.—*Schæff.* 178.—*Fl. dan.* 780. 1.—*Mich.* 102, *cyathoides*, 2, *cop. in Gled.* 4. *Peziza f.* 1 *and* 2.—*Vaill.* 11. 4 *and* 5.—*(Hoffm. veg. cryp.* ii. 8. 3. *Mr. Woodward.)*

Very woolly on the outſide, beautifully ſtriated within.

P. lentifera β Linn.

Woods, fields, and rotten wood. [Earſham Wood near Bungay, Suffolk. Mr. WOODWARD.] Sept.—May.

ſmooth NIDULA'RIA *læ'vis.* Conical but diſtended, dirty yellow, ſmooth. Capſules ſmooth.—

Bull. 40. *B. C. C. and* 488. 2.—*Schæff.* 179, 181.—*Mich.* 102, *Cyathoides*, 3, *cop. in Gled.* 4 *Peziza f.* 4.—*Fl. dan.* 105.—*Ray* 1, 2, *b*; *and c, one of the ſeed-like ſubſtances. (Hoffm. veg. cryp.* ii. 8. 1. *Mr. Woodward.)*

Perfectly ſmooth both within and without; ſhaped like a crucible. All theſe ſpecies are at firſt cloſed by a cover, formed of the outer coat of the plant, which tears and diſappears as the growth advances, ſhewing the young progeny which fall out, and fix themſelves by their radicle, forming new plants. All the three ſpecies are common here. Mr. WOODWARD.

On rotten wood. Sept.—May.

1328. PHAL'LUS. Morell.

FUNGUS ſmooth underneath, with a fleſhy net-work on its upper ſurface. LINN.

Ess. CHAR. Stem ſupporting a cellular Pileus. Seeds in the cells.

PHAL'LUS *eſculen'tus*. Pileus egg-ſhaped; full of cells. Stem naked, wrinkled.— *eſculent*

Bull. 218. *B. D.*—*Schæff.* 199. 298. 299. 300.—*Bolt.* 91.—*Fl. dan.* 53.—*Sterb.* 10.—*Mich.* 85. 1 *and* 2; 84. 1, 2, *and* 3; *cop. in Gled.* 2. *Phallus f.* 1, 2, 4, 5, 6, 7.—*Garſ.* 173.—*Cluſ.* 264. 1, *repr. in Lob. ic.* ii. 274; *Dod.* 481. 1, *Ger. em.* 1583. 1, *and cop. in J. B.* iii. 836. 2, *and the principal one cop. in Park.* 1317. 1.—*Tourn.* 329. *A.*—*Battar.* 2. *F.*

Has an agreeable ſmell. *Stem* hollow, naked, ſhort, white, 1 to 2 inches high, ½ to 1 inch in diameter. *Pileus* buffy or browniſh, entirely united to the ſtem, from the ſize of a pigeon's to that of a ſwan's egg; cells very large, angular like a honeycomb.—Colour pale yellow, or buff, grows to a large ſize. Mr. WOODWARD.

Woods and hedges in loamy ſoil. May.

β. Small, black.

Bull. 218. *E. F.*

On ſandy heaths, Norfolk. Mr. WOODWARD.

PHAL'LUS *impudi'cus*. Pileus cellular above, ſmooth underneath, not united to the ſtem. Stem perforating the pileus and open at the end.— *ſtinking*

Bull. 182.—*Curt.* iii. 33.—*Schæff.* 198. 197. 196.—*Bolt.* 92.—*Mich.* 83, *cop. in Gled.* 2. *Phallus f.* 3.—*Fl. dan.* 175.—*Ray cat. at p.* 122. *ed.* ii.—*Battar.* 2. *A, B, C, D.*—*Sterb.* 30. *B, C, at p.* 276.—*Cluſ.* ii. 295, *repr. in Dod.* 483, *Lob. ic.* ii. 275, *and Ger. em.* 1583. 2; *and cop. in Park.* 1322. 13, *J. B.* iii. 845. 1, *Sterb.* 30. *B, F, G, at p.* 276, *and Barr.* 1258.—*J. B.* iii. 843. 3, *cop. in Sterb.* 30. *A, D.*—*Pet. fil.* 17. 13. 14.—*Cluſ.* ii. 286. 2, *cop. in J. B.* iii. 845. 2, *Sterb.* 30. *I, H, at p.* 276, *and Barr.* 1264, *exhibits no appearance of a pileus open at the end, but is probably the ſame.*

Though this plant is ſo intolerably fœtid that it is much oftener ſmelt than ſeen, yet in its egg-ſtate it has no offenſive ſmell. The odour reſides in the green matter which fills the cells of the pileus and is very ſoon devoured by flies, particularly by the large blue fleſh

fleſh fly. In its egg ſtate it is about the ſize of a ſmall pullet's egg, and remains many days before it burſts through its wrapper; but this being done, the ſtem puſhes up with amazing rapidity, attaining the height of 4 or 5 inches in a few hours. This offenſive green matter contains the ſeeds, which may be ſeen by the aſſiſtance of a good microſcope. Such as have courage to ſmell this matter cloſely, will find it much leſs diſagreeable than at a diſtance; for it then ſeems to have a ſlight pungency like that of volatile ſalts. Its odour very ſoon pervades a whole houſe. The wrapper is lined with a clear jelly like the white of an egg, but ſtiffer; within this is found the green matter, and within that the young plant. When it ſhoots up, the wrapper and the clear jelly remain at the root; the ſtem is hollow, within porous and ſpongy like pith.

[Very common in wet ſummers in hedge banks and thickets.—In ſandy ſituations frequent near Bungay. Mr. WOODWARD.]

July—Sept.

bell-headed PHAL'LUS *campanula'tus*. (WOODWARD.)—Pileus bell-ſhaped, powdery. Stem ragged, woody.—

Phil. Tranſ. lxxiv. 16. *at p.* 423.

Wrapper egg-ſhaped, with two coats, whitiſh, full of mucilage, buried under ground to the depth of 7 or 8 inches. *Stem* cylindrical, naked, ſomewhat woody, hollow, ragged from the breaking of the bark, about a foot high. *Pileus* covered above with a thick layer of powder over which lies as a veil, a portion of the burſt wrapper. *Veil* torn, looſe. *Powder* brown. DICKS. p. 24.—*Roots* few, thin, whitiſh. *Wrapper* egg-ſhaped, double, with mucilage between the coats. *Stem* iſſuing from the inner coat of the wrapper, rather woody, hollow, browniſh, its ſurface ragged. *Pileus* bell-ſhaped, ſmooth, covered on its upper ſurface with a thick layer of powdery matter, and bearing on its apex a cap formed by a part of the lacerated wrapper. *Powder* ſpherical, ſemi-pellucid, yellow brown. The Egg is about the ſize of a ſmall hen's egg, and lies buried in ſandy banks at the depth of 6 or 8 inches. The ſtem is from 7 to 12 inches long, though not more than 2 or 3 inches appear above the ſurface. The pileus is an inch or more from the edge to the apex, and nearly as much in diameter at its baſe. Phil. Tranſ. v. 74, p. 423.—This very ſingular plant was firſt diſcovered by Mr. Humphreys, and afterwards its progreſs in its various ſtates was carefully watched by Mr. Stone and Mr. Woodward, the latter of whom ſent an accurate deſcription of it with a drawing to the Royal Society. In the Phil. Tranſ. it is referred to the Genus Lycoperdon, and Mr. Dickſon has introduced it in his Faſc. Plant. Cryptog. p. 24, under the name of Lycop. Phalloides; but the diſtribution of the Fungi adopted in this work, compels me to rank it as a Phallus.

Sand

Sand banks near Norwich, Norfolk, and Bungay, Suffolk. Mr. HUMPHREYS, and Mr. WOODWARD *in Dickſ.*—[Earſham and Kirby, Norfolk. Mr. WOODWARD.] Aug.

PHAL'LUS *cani'nus.* (SCHÆFF.)—Pileus wrinkled, red, covered with a greeniſh matter, conical, cloſed at the end. Stem yellow, tapering at the bottom.— *dog's*

Curt. iv. 39.—*Schæff.* 330, *too highly coloured.*—*Battar.* 40. F.

Egg the ſize of a nutmeg. *Stem* hollow, as thick as a ſwan's quill, near 3 inches high, pale orange, ſemi-tranſparent. *Pileus* conical, not larger than the ſtem, ½ inch high, cloſed at the apex; covered with a thin coat of green ſcentleſs ſlime, which being removed it appears red and wrinkled. Its growth is rapid like that of the Ph. impudicus. CURTIS.

Schæffer's figure not an exact reſemblanee of it as found in England. Mr. WOODWARD.

This is a rare plant. Firſt found in woods and ſhady places near Shrewſbury. EHRET. *in ſl. ang.* July—Sept.

1332. CLAVA'RIA. Club-top.

FUNGUS perpendicular; ſmooth; oblong; of one uniform ſurface.

Ess. CHAR. Oblong, upright, club-ſhaped. SEEDS emitted from every part of its ſurface.

* STEM with a head.

CLAVA'RIA *gy'rans.* (BATSCH.)—Stem hair-like. Head club-like, terminating, longiſh, tapering at each end. RELHAN, n. 1102. *twiſted ſtalk'd*

Bolt. 112. 1.—*Batſch.* 164.—*Willd.* 7. 18.

Stem 1-3d to 2-3ds of an inch long, very ſlender, pellucid, crooked at the bottom, twiſting and untwiſting as the air is moiſt or dry. *Head* oblong, near ¼ of an inch high, whitiſh. BATSCH.

On rotten ſtraw and leaves, in woods and moiſt places. Sept. Oct.

CLAVA'RIA *phacorhi'za.* (DICKS.)—Very ſimple, very thin, brown. Club-awl-ſhaped, whitiſh. Root lentil-ſhaped. REICH. *in ſchriſt. der Berl. geſellſch.* i. 315. DICKS. ii. 25. *ſlender*

Bolt.

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Bolt.

Bolt. 111. 1.—*Mich.* 87. 7.

Stem ½ inch long, ſmooth, ſlender, pellucid. *Head* 1 inch long, ſlender, ſpindle-ſhaped. BOLTON.

Garden walks about Walthamſtow, Oct.

headed CLAVA'RIA *capita'ta.* Stem yellow, cylindrical, Pileus egg-ſhaped, cheſnut coloured, dotted.—

Bolt. 130.—*(Fl. dan.* 540, *and Bull.* 463. 3, *ſeem to be varieties of this.)*

Root black, ſpongy, ſurrounded by a thick wrapper which is continued with the ſtem. This is again incloſed in another, of a dry texture and brown green colour. *Stem* ſolid, ſmooth, furrowed, twiſting, ſoft, pliable, ſplitting, 2 to 3 inches high, ⅛ to ½ inch diameter. *Pileus* long egg-ſhaped, ¼ of an inch high, near ½ inch diameter. BOLTON.

Ramſden Wood, about Highfield near Halifax.

ſpatula CLAVA'RIA *Spa'thula.* (DICKS.)—Head compreſſed, dilated. Stem wrinkled.—

Bolt. 97.—*Fl. dan.* 658.—*Schmid.* 50.

Stem white. Head yellow, egg-ſhaped, flatted. On being touched throwing up the ſeeds in form of a ſmoke, which riſe with an elaſtic force and glitter in the ſunſhine like particles of ſilver. BOLT. 97.—On touching them when in full perfection a ſmoke ariſes from the edges thrown out with conſiderable force, and continues to riſe ſome time, a circumſtance common to all the Pezizas and Helvellas, and ſhewing this plant to have more affinity with them, particularly to the firſt than to the Clavaria's. Bolton's figure repreſents the head more inflated than I have ever ſeen it. Mr. WOODWARD.

Woods near Norwich. Sept. Mr. CROWE.—[In a pine grove at Kirby, near Beecles, conſtantly appearing every year. Aug. Mr. WOODWARD.]

orange CLAVA'RIA *milita'ris.* Club-ſhaped, very entire, Head ſcaly. LINN.—Head granulated—

VAR. 1. Head orange or brown red.

Schmidel 5, 2 *and* 3.—*Bolt.* 128.—*Vaill.* 7. 4.—*Fl. dan.* 657. 1.

VAR. 2. Head yellow.

Bull. 496. 1.—*Buxb.* iv. 66. 2.

Stem ſlender, tapering upwards, about an inch high, and then gradually thickening to form the *Head*, which is nearly cylindrical, but thickeſt in the middle, blunt at the end, granulated on its ſurface,

face, 1 or 1½ inch high, 2-10ths to 3-10ths of an inch diameter in the thickeſt part.

Moiſt woods and bogs. [Thorpe near Norwich. Dr. J. E. SMITH.]
Sept.—Oct.

** STEM undivided; without a head.

CLAVA'RIA *hercula'nea*. Undivided, ſolid.— *ſolid*

VAR. 1. Club-ſhaped, depreſſed at the top, ſolid, ſurface uneven, dirty yellow or orange.

Bull. 244.—*Schæff.* 169.—*Schmidel.* 4. 1.—*Buxb. hal. cent* 2. 1. *p.* 132.—*Batſch.* 46.—*Mich.* 87. 1. 2. 3; *the firſt cop. in Gled.* 1. *Clavaria f.* 4.

Cl. piſtillaris. β Fl. ſuec. n. 1266.

δ HUDS. 638.

This is the largeſt of the Genus; it is firm, undivided, greatly thickening upwards, ſolid, ſmooth, about 3 inches high, and 1 or 2 in diameter towards the top. The ſhape in the larger ſpecimens is very much like that of a long pear.

VAR. 2. (LIGHTF.) Studded at the top; club-ſhaped, ſolid, orange brown.

Schæff. 290.

Shady woods. Oct.

VAR. 3. Yellow or orange; ſolid, nearly cylindrical, tapering to a point.

Schæff. 171.—*Schmidel.* 4. 2.—*Bolt.* 110. 1. 4. 5. 6, *from the left hand, poſſibly Mich.* 87. 5. 6. 9, *cop. in Gled.* 1. *Clavaria, f.* 1. *and Mich.* 87. 11, *cop. in Gled.* 1. *Clavaria f.* 2.

β Cl. piſtillaris. HUDS.

Dirty buff, thick as a thick reed at the bottom, gradually ſwelling to the diameter of an inch at top; 5 inches high, ſurface wrinkled, pitted, and puffed out.

Amongſt leaves and moſs under trees, in Coplar Wood, Herefordſhire. Mr. STACKHOUSE.

VAR. 4. Whitiſh, ſolid, nearly cylindrical, tapering to a point.

Schmidel. 5. 1.—*Bolt.* 110, *the 2d and 3d from the left hand.*—*Fl. dan.* 837. 1. *and* 775. 2.—*Scheuch. it.* i. 3. 3.—*Mich.* 87. 12, *cop. in Gled.* 1. *Clavar. f.* 5.

Clav. vermiculata. LIGHTFOOT.

Woods and heaths in dry ſoil. Oct.

VAR. 5. Dull yellow, ſolid, either entire and blunt, or cloven and tapering at the end.

Bull. 264.—*Vaill.* 8. 4.

Yellow,

Yellow, brittle, ſmooth, when young undivided, flatted, grooved, becoming forked with age; terminating in a taper point. BULLIARD.

Grows on the ground.

The plants of this and the following ſpecies were united by Linnæus and Hudſon, under the name of Cl. piſtillaris, but Haller, and after him Lightfoot, very properly divided them; for want however, of attending to the circumſtance of the individuals being ſolid or hollow, a circumſtance which ſeems invariable, ſome confuſion yet remained. We have now arranged them, guided by their ſtructure, and as they naturally fall under two ſpecies, the third ſpecies of Haller and Lightfoot, called *vermicularis*, and its varieties, aſſociates with one or other of theſe two. In this diſpoſition of theſe ſubjects I am happy to have the concurrence of Mr. Woodward, whoſe accuracy and induſtry have added ſo greatly to the value of this work, and who had, without any previous knowledge of my intention, arranged the plants in queſtion nearly as they now ſtand.

hollow CLAVA'RIA *piſtilla'ris*. Nearly cylindrical, generally univided, hollow, brittle, ſmooth.—

VAR. 1. Hollow, white; thickeſt upwards.

Schmidel. 15.—*Bull.* 463. 1. *A. L. M.*—*Vaill.* 75.

VAR. 2. Hollow, orange or browniſh yellow.

Bull. 463. 1. *B. N. O.*

Theſe plants are very brittle, ſlender at the baſe, rounded at the end, ſometimes, though rarely, cloven; 2 or 3 inches high, and as thick as a raven's quill.

Woods, heaths, and dry hedge banks. Sept.—Nov.

VAR. 3. Tapering to a point; crooked, hollow, white.

Mich. 87. 13.

Cl. piſtillaris. γ HUDS. Cl. vermiculata. LIGHTF.

Woods and paſtures. Autumn.

Helvella CLAVA'RIA *elveloi'des*. (DICKS.)—Growing in tufts. Stems very ſimple, very thick, united at the baſe, inverſely pyramidal, ſcored. JACQ. miſc. ii. 99.

Schæff. 164.—*Jacq. miſc.* ii. 12. 3.

When young fleſhy; when fully grown woody, branched, compreſſed, ſomewhat funnel-ſhaped, lopped, the edge plaited, curled, brown with a tinge of purple without, whitiſh or yellowiſh within. DICKSON 21. — Inverſely conical, about 2 inches high and 1 inch diameter. SCHÆFFER.

Woods on the ground about the trunks of trees. Aug. Sept.

CLA-

CLAVA'RIA *ophioglossoi'des.* Club-shaped, very entire, compressed, blunt.— *black*

Schmid. 25.—*Bolt.* 111. 2.—*Bull.* 372.—*Schæff.* 327.—*Vaill.* 7. 3.—*Batsch.* 47.—*Mich.* 87. 4.—*Pluk.* 47. 3.

About 2 inches high, and near half an inch over in the broadest part; black, smooth, spatula-shaped upwards, white within, and hollow when old. BOLTON. BULLIARD.—I never could perceive any appearance of spherules on this plant. Mr. WOODWARD.

Moist heaths and woods. Sept. Oct.

CLAVA'RIA *fimbria'ta.* Undivided, hollow, closed and pointed, or open and fringed at the end.— *fringed*

Greenish at the bottom; white above; hollow, tapering, close and ending in a single or double point; or open at the end and surrounded with a dark coloured glandular fringe. The whole covered with a greyish powder. About the thickness of a pin and near half an inch high.

Edgbaston, amongst moss. 27th Oct. 1790.

*** STEM branched.

CLAVA'RIA *el'egans.* Somewhat branched, upright, white.— *elegant*

Bolt. 115.—*Bull.* 496. 3. *L. M. P.*

Club-shaped or branched, 4 or 5 inches high, wrinkled, furrowed, thick as a quill. BOLTON.—Mr. Bulliard considers this as a variety of the coralloides, but I think Mr. Bolton is right in keeping it distinct. It connects the unbranched with the branched species.

Under firs about Fixby Hall, near Halifax. Sept.

CLAVA'RIA *farino'sa.* (DICKS.)—Branched, mealy, white. Branches short, lopped, finely scolloped.— *mealy*

Holm. in nov. act. dan. 1. *p.* 299. *f.* 6; *on the authority of Mr. Dickson.* ii. 25.

Solitary. *Stem* upright, somewhat angular, somewhat compressed, branched. *Branches* unequal, short, thicker towards the ends, bluntly lopped. Whole *plant* covered with a white meal, which being rubbed off it appears yellow. DICKSON.

Woods on the chrysalises of insects.

CLAVA'RIA *lacinia'ta.* (BULL.)—Branched; flat, thin, membranaceous, jagged and fringed above.— *jagged*

Bull. 415. 1.—*Jacq. misc.* 14. 1.—*Schæff.* 291.

Growing

Growing on the ground. From 1 to 2 inches high; branching; irregular in ſhape. *Stems* uniting at the bottom; purpliſh brown; covered with fine mealy white; which eaſily rubs off. *Branches* often like an expanded hand, whitiſh or yellowiſh brown, the ends jagged and ſet with ſeveral pointed projections tipped with reddiſh brown. Subſtance ſolid, tough.

Edgbaſton Plantations. 21ſt Aug. 1791.

coral CLAVA'RIA *coralloi'des.* Branches crowded, very much divided and ſub-divided, unequal.—

VAR. 1. Yellow.

Bull. 222.—*ib.* 496. 3. *O. Q. and* 358. *B. D. E. and* 496. *N.*—*Schæff.* 174. 175. 285. 287.—*J. B.* iii. 837.—*Barr.* 1260.—*Vaill.* 8. 4.—*Tourn.* 332. *B.*—*Cluſ.* ii. 274. 2, *rapr. in Ger. em.* 1579. 2, *and cop. in Park.* 1318. 26, *and Barr.* 1266.—*Sterb.* 11. *at p.* 96.

Heaths, groves, and paſtures. Aug.—Oct.

VAR. 2. Whitiſh, or quite white.

Batſch. 48.—*Bolt.* 113. *d.*—*Schæff.* 170. 176. 286. 287.—*Bull.* 358. *c.*

VAR. 3. Reddiſh.

Schæff. 177.—*Barr.* 1262. 1259.—*Mich.* 88. 3, *cop. in Gled.* 1, *Clavaria f.* 7.

VAR. 4. Purple.

Bull. 496. *G.*—*Bolt.* 113. *b.*—*Schæff.* 172.—*Barr.* 1261.—*Pet. ſil.* 16—15.

Root very large, ſolid; branches numerous; tops forked, beautifully tinged with purple.

Amongſt leaves under trees. Mr. STACKHOUSE.

VAR. 5. Pale olive brown.

Bolt. 113. *a.*

Pale brown, growing in large tufts. General appearance like a cauliflower. Subſtance tender. Stems and branches ſolid; half an inch or more in height. Roots cloſely compacted together forming a more reſiſting ſubſtance than the ſtems.

Under the oak tree which hangs over the road down to the horſe ſtew, Edgbaſton. 4th Sept. 1791.

VAR. 6. Grey.

Bull. 354.

This ſpecies varies almoſt without end, but may always be diſtinguiſhed from the piſtillaris, by growing from one baſe and being extremely branched. Mr. WOODW.—All the above plants are very brittle and tender, and it is ſaid may be admitted to our tables; the white ones and grey ones I know may be eaten with ſafety.

CLA-

CLAVA'RIA *faſtigia'ta.* Branches crowded, very much divided and ſub-divided, of equal height; (blunt, yellow.)— *yellow*

Bolt. 112. 2; *and* 113. 2. *b. c.*—*R. ſyn.* 24. 5. *at p.* 478.—*Buxb.* iv. 66. 1.—*Schæff.* 174. 170. 172 *and* 291.—*Bull.* 358. *D. E.*

Whether this be a variety of the preceding, or a diſtinct ſpecies, ſeems doubtful. The principal difference is, that in the Clavaria coralloides the whole plant iſſues out of one thick and ſolid ſtem, which afterwards divides and ſub-divides into very numerous branches; but in this ſpecies they ſeem very ſlightly, if at all, connected at the baſe, where the diſtinct ſtems are much attenuated, and are either ſimple or ſlightly branched, and lopped at the top. From theſe circumſtances it may be thought to approach the Clavaria piſtillaris, but I ſhould conſider it as diſtinct from both. Vaill. 8. 4. probably belongs to this as Bolton ſuppoſes. Mr. WOODW. —Branches thickeſt upwards, lopped and flat at the ends. Yellow, white, or purple, full 1 to 3 inches high, and thick as a crow or a raven quill. BOLT. LIGHTF. SCHÆFFER.—It is evident from the inſpection of the various figures, that ſome have been drawn, as Bolt. 112. 2, from plants in a young ſtate. When ſomething older pointed teeth ſhoot out from the ends, and when older ſtill theſe become larger and ſometimes branched, ſo that the latter part of the Linnæan character, included in a parentheſis, would be better omitted. Perhaps M. Bulliard is right in conſidering the faſtigiata as only a flat-topped variety of the coralloides.

Woods and paſtures. Aug.—Oct.

CLAVA'RIA *muſcoi'des.* Branches branched, taper-pointed, unequal, pale yellow.— *pointed*

Schæff. 173.—*Bolt.* 114.—*Bull.* 358, *A. B.*—*R. ſyn.* 24. 7, *at p.* 479.—*Fl. dan.* 836. 2—*Pet. gaz.* 93. 4, 5.—*Geſn. ap. Cord. ic. an.* 17. 153.

This differs from both the preceding in having the extremities of the branches ſharply pointed, but it agrees with the faſtigiata in being nearly diſtinct at the baſe, and with the coralloides in being much branched. Mr. WOODWARD.—Yellow or brown yellow, from 2 to 5 inches high, branches like ſome of the ſhrubby Lichens, the branches always affecting forked diviſions, and terminating in pointed forks.—Am not quite certain of my reference to Bulliard, but ſtill leſs certain that Mr. Bolton has rightly referred to Bull. 264.

Heaths and dry woods. [Pendarvis, Cornw. Mr. STACKHOUSE.] Sept. Oct.

CLA-

digitated CLAVA'RIA *digita'ta.* Thick, ſolid, conical, rough, black.—

Fl. dan. 900.—*Bull.* 220.—*Bolt.* 129. *h.*—*Schæff.* 328.—*Mich.* 54. *ord.* 2, 4.—*Wieg. obs.* 3. 6.—*(Mich.* 52. 2, *a different ſpecies. Mr. Woodward.)*

Subſtance like cork, tending to a cylindrical figure; black, white within, 1 to 2 inches high, ¼ to ½ inch diameter, ſometimes rather branched, white at the top when young. Seeds lodged in little cells on the ſurface, mixed with a glary fluid. Theſe cells are not very viſible externally until the hairs fall off. BULLIARD.—This is always branched, ſeveral ſtems ariſing from the ſame thick baſe, which ſupplies the place of a root. If any of Bolton's figures are intended to repreſent this, they are ſo ill executed as not to be ſafely quoted; Mr. WOODWARD;—who conſiders it as a Sphæria, and diſſatisfied, very juſtly, with the inſufficiency of the Linnæan character, adopted by Mr. Hudſon, propoſes the following. SPH. *digitata*, ramoſa, ramis ſub-ſeſſilibus oblongis, apicibus obtuſis.

On rotten wood. Aug.—Nov.

horned CLAVA'RIA *Hypox'ylon.* Branched, compreſſed, horned. LINN.—Very black, rough, hand-ſhaped. Horns flat, fleſhy, powdery. HALLER.

Bolt. 129. *b. c. i. e. f.*—*Bull.* 180.—*Wieg. obs. t.* 3. *f.* 5.—*Mich.* 55. *ord.* 1. 1.—*Walc. n.* 7.—*Pet. gaz.* 67. 12.—*Batſch.* 160.

From 1 to 3 inches high, and ¼ to ½ acroſs; very woolly when young, and very black; the tops tender and gelatinous whilſt young, white, mealy; fleſh white, fibrous, rather woody. The white tops turn brown and ſhrivel towards the end of winter, when the ſeeds ripen. Seeds in cells on the ſurface below the white part.

On rotten wood. On the ſtumps of alders which have been cut down 6 or 7 years, plentiful, and in almoſt every variety of ſhape and ſize. Pool tail in Edgbaſton Park. It may be found all the year, but not plentiful in the ſummer. The tubercles firſt appear below the white extremities, on a leſs white part, and they are black.

VAR. 1. Flat, thin, inoſculating; but little hairy.

Fl. dan. 713.—*Mich.* 66. 3.

No part broader than a packthread; but variouſly run into one another. Mr. WOODWARD.

Between 2 thick oak plants which covered a well. Mr. WOODW. —In a ſimilar ſituation over a well in a cellar at Mr. Warltire's at Wolverhampton. I have ſeen it 2 or 3 feet long, and between the bark and the wood of a large elm in Edgbaſton Park which had been ſhivered by lightning, I found it in the matted ſtate mentioned by Mr. Woodward.

VAR.

Var. β. Hudſon, is the Boletus rangiferinus.

The Clavaria Hypoxylon, and digitata, run ſo much into one another, that I do not ſee how it is poſſible to eſtabliſh them as diſtinct ſpecies, but have at preſent kept them ſeparate in compliance with the opinions of Linnæus, Haller, Hudſon, Lightfoot, Bulliard, &c.—Mr. Bolton is certainly miſtaken when he aſſerts that the Cl. Hypoxylon in a perfect ſtate becomes the Cl. digitata. Mr. Woodw.

CLAVA'RIA *cupreſſifor'mis*. But little branched; head conical, ſupported on a ſtem.— *cypreſs*

Mich. 55. 2.—*Bolt.* 129. *g.*

This plant ſeems to me to differ very eſſentially from the Cl. digitata. It is generally ſimple, or only once divided. *Stem* about ½ an inch high, ſupporting a head about the ſame length, which is always conical, reſembling a cypreſs tree in miniature. Mr. Woodward.—I had arranged this as a variety of the Cl. Hypoxylon, but now place it as a diſtinct ſpecies on Mr. Woodward's authority, who reckons it, as he does the others of this tribe, as belonging to the genus Sphæria, and favoured me with the following ſpecific character, from which the Engliſh character, given above, is taken.

Sph. *cupreſſiformis* ſub-ſimplex, ſtipitata, capitulo conico.

On decayed wood. Mr. Woodward.

CLAVA'RIA *paraſit'ica*. Unbranched. Head oval, ſupported on a ſtem.— *paraſitic*

Willd. berol. 7. 17.

This ſingular fungus is always fixed to a Lycoperdon. It is very like the Cl. ophioglоſſoides, but differs in being ſofter in its ſubſtance, and ſooner decaying. The head is never compreſſed, as in that ſpecies, and is always coated with minute papillæ. When old it is hollow at the top. Willd. p. 405; who gives its ſpecific character thus:

Cl. *paraſitica*, clavata, nigra, ſimpliciſſima, ſtipite tereti, corpore oblongo tereti, obtuſo papilloſo—but I have preferred that of Mr. Woodward as being ſhorter, but yet ſufficient. He ranks it as a Sphæria, with the following character.

Sph. *paraſitica* ſimplex, ſtipitata, capitulo ovali.

I am indebted for the knowledge of this plant to Mr. Woodward, and alſo for the following obſervations:—Willdenow calls the Lycoperdon on which this grows L. ſcabrum, and ſays it differs from the Tuber cibarium, which it certainly does, but I do not ſee that it differs in any reſpect from our T. cervinum. This plant is never branched, though frequently growing in cluſters, in one inſtance as many as ſeven together. *Root* conſiſting of many long, wiry, brown fibres, with which it entwines and covers the ſurface of the Tuber, but never penetrates

its ſubſtance. *Stem* ſlender, about 1 inch long. *Head* oval, about ½ an inch high, covered with minute Sphæriæ. It differs from Cl. digitata, in ſize, in ſtanding on a ſtem, and in being unbranched; and from Cl. cupreſſiformis in having a longer ſtem, an oval head, and the ſpherules much more minute; and from both in its peculiar habit, and the long fibres which form the root. Found on a heath near Norwich ſome years ſince, and ſent me by Mr. Pitchford. Mr. WOODWARD.

TU'BER.

Ess. CHAR. Stemleſs; fleſhy, ſolid, not becoming powdery, not opening at the top.

Truſle TU'BER *ciba'rium.* (BULL.)—Globular, ſolid, warty, without a root.—

Bull. 356.—*Mich.* 102, *Tuber, cop. in Gled.* 5. 10, *and* 6. 7. —*Tourn.* 333.—*Matth.* 544, *cop. in Sterb.* 32, *the uppermoſt A.* —*Lonic.* ii. 15.—*J. B.* iii. 849.—*Dod.* 486. 2, *repr. in Lob. ic.* ii, *Tubera; Ger. em.* 1583. 8, *and cop. in Park.* 1319. 30, *and imit. in Sterb.* 32, *the middlemoſt A.*—*Ger.* 1385. 3.

Globular, of the ſize of a plumb, white, rough with elevated dots, in the center containing a brown powder like that of *Lycoperdon Boviſta*, but in ſmall quantity, opening with a rent. LINN. *ſuec. n.* 1281.—It is found under the ſurface of the earth, at the depth of 4 or 5 inches. It has no proper root. Its colour dark, approaching to blackneſs. White within when young, but when old black with whitiſh veins. BULLIARD.

Truffles. Trubs.—Under ground in high woods and paſtures. On the Downs of Wiltſhire, Hampſhire, and Kent. Sept.—May.

This is one of the eſculent Funguſſes, and one of the beſt of them. Dogs are taught to hunt it, and when they ſcent it they bark a little and begin to ſcratch up the earth. Pigs likewiſe in Italy root it up, and an attendant takes it from them.

whitiſh TU'BER *al'bum.* (BULL.)—Tawny white, without a root, but rooted by its baſe.—Variouſly ſhaped, roundiſh, convex, hunched, ſomewhat wrinkled, ſolid, whitiſh. DICKSON ii. 26.

Bull. 404.

Two to 3 inches long, and about 2-3ds as much in width. A ſection of its inſide ſhews very like a piece of Rhubarb. BULLIARD. —Half of it lying beneath the ſurface of the ground. Somewhat yellowiſh when dry. Nearly allied to *L. Tuber.* DICKSON.

Lycop. gibboſum. DICKSON.

Woods. VAR.

VAR. 1. Uniform, tanned leather colour within.

About a fourth part buried; near 2 inches diameter; ſurface knobby and pitted; hairy in the pits; ſubſtance uniform, like cork, colour not variegated. The whole maſs perforated by ſtems of graſs, ſo that it muſt have been above ground in a ſoft ſtate. I ſuſpect it will prove to be a diſtinct ſpecies.

Under a Spaniſh cheſnut tree, in Edgbaſton Park. Aug.

TU'BER *cervi'num.* Globular, rather ſolid, rent, powdery in the center, without a root.— *tawny*

Mich. 99. 4, *cop. in Gled.* 5. *f.* 11.—*Sterb.* 32, *the uppermoſt B.*—*Gars.* 115. *A.*—*Lob. ic.* ii. 276, *Tubera cervina, cop. in J. B.* iii. 851, *and in Park.* 1319, *the 2 figures on the right hand, and imit. in Sterb.* 32, *the lowermoſt B.*

(*L. cervinum* Bolt. 116, is L. ſpadiceum.)

Tawny on the outſide and granulated; the outer coat hard. Whitiſh or purpliſh within. About 1½ inch diameter. MICHELI.

Woods and hedges. Cane Wood near Hampſtead. R. *ſyn.* 28. —In Devonſhire. HUDS.—[In a wood near Woolhope, Herefordſh. It grew juſt on the ſurface under a tree, and was ſplit in wide fiſſures ſo as to reſemble a cluſter of cheſnuts. Mr. STACKHOUSE.]

TU'BER *ſoli'dum.* Globular but compreſſed, brown, reticulated, very firm; blue black within.— *ſolid*

Vaill. 16. 5. 6.—*Schæff.* 188. *f.* vii. *the ſection accords with our plant, but the root is ſuch as I have not ſeen.*

Globular but compreſſed. Diameter 1 to 2 inches. Inner coat tough and woody; outer ſkin thin, brown, cracked, but not papilloſe. Inſide firm, ſolid, blue black, even from its youngeſt ſtate. It ſeems compoſed of black grains, imbedded in a grey cottony ſubſtance, ſo that when broken it appears more grey than when cut, for then the inſide of the granules appear black from being cut through. Stemleſs. Root ſhort.

Edgbaſton, under an oak tree by the Pool. 13th Aug. 1791.

TU'BER *radica'tum.* Roundiſh, compreſſed; radical fibres from the ſurface, collecting ſo as to form a root.— *rooted*

Bolt. 116.—*Mich.* 99. 3. *and D.*—*Sterb.* 32. *the 2 middlemoſt. B. B.*

From 1 to 2 inches or more in diameter. *Root* none, but radical fibres are connected with different parts of its ſurface. When it riſes out of the ground, the fibres which are undermoſt unite themſelves and form a kind of root. It is at firſt brown, and rough, and milk white within. When it is riſen above the ſurface of the ground it aſſumes various colours, as yellow, or green, or reddiſh brown.

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The inside now changes to purple, variegated with black veins, and at length becomes wholly black. The rind is very strong, and never breaks open like that of the Lycoperdons. BOLTON.

Lycop. cervinum. BOLT.—Lycop. spadiceum. DICKS.?—The L. aurantiacum of Bulliard cannot be the same with this, for it is a real Lycoperdon, and opens at the top. Lyc. spadiceum Schæff. 138 has been referred to this, but the solid stem and the habit do not agree.

On heaths, rare. April.—Sept.

1333. LYCOPER'DON. Puff-ball.

FUNGUS roundish; opening at the top; full of powdery impalpable Seeds.

ESS. CHAR. Fleshy, firm, becoming powdery and opening at the top.

* WRAPPER permanent.

cullander LYCOPER'DON *colifor'me*. Wrapper with many clefts, expanding. Head spherical, depressed. Fruit-stalks and mouths numerous.—

Dicks. 3. 4.

Wrapper when ripe splitting into several segments which lie flat on the ground, expanded in form of a star. *Head* pierced with several *mouths* from which the dust escapes. DOODY in R. syn. 28.—*Wrapper* leathery, at first inclosing the head, when ripe splitting elastically into several segments; *segments* unequal, towards the ends marked with spots, the relics of the mouths of the head. *Fruit-stalks* supporting the head, several, short, near together, compressed, almost woody. *Head* brownish, covered with a thin silvery pellicle, the upper surface pierced with holes, full of a brown dust. *Mouths* small, round, fringed, somewhat elevated. DICKS. — This Lycoperdon springs from an egg which lies on a level with, or just below the surface of the ground. In this state it is nearly globular, but slightly compressed, of a dirty white, wrinkled, scaly; with a short thick root terminated by a few fibres. Cut open it shews a soft leathery coat covering another which is thicker and much more tough, filled with a white curd-like substance of a disagreeable smell. As yet there was no appearance of a head. One found in August remained in this state to the end of November before it expanded; when in a single day it was entirely raised out of the ground and fully expanded. The root breaks off, and is left in the earth, and the inversion of the

the plant neceſſarily raiſes it to the ſurface, what was before the upper and outer part of the wrapper being now next the ground. This deſcription of the method of opening applies to the L. ſtellatum and L. recolligens as well as to this ſpecies. The head in the larger ſpecimens is conſiderably compreſſed, of a browniſh colour, covered with a very thin pellicle of a beautiful ſilver grey, peculiar to this ſpecies. The apertures are very numerous, ſlightly elevated and fringed with fine hairs. The pedicles which do not appear till the thick brittle coat (which is common to this and the other ſtellated ſpecies) dries or peels off, are very numerous, woody, thread or ſtrap-ſhaped. In one ſpecimen they filled up a circle of ½ an inch in diameter, and this had at leaſt 40 apertures. In the ſmall ſpecimens the head is nearly ſpherical, and ſometimes the pedicles and apertures are not more than 3 or 4; but theſe are hardly to be conſidered as varieties. Notwithſtanding there ſeems to be a ſort of correſpondence between the number of pedicles and of apertures, they have no direct communication, nor any correſponding cells, the head forming a ſingle cavity as in the other ſpecies. The apertures are not accidental ruptures, but originally formed, for in an abortive plant, found in company with Mr. Stone, in which the duſt never ripened, we obſerved a puckering of the ſkin in the ſame ſituation where the mouths uſually appear. Mr. WOODWARD.

In the lane from Crayford to Bexley Common, Kent. DOODY *in R. ſyn.* 28.—Sandy banks near Mettingham, Suffolk; and Gillingham, and Earſham. Norfolk. Mr. STONE and Mr. WOODW. —[Near Hanley Caſtle, Worceſterſhire. Mr. BALLARD.]

Auguſt. Sept.

LYCOPER'DON *ſtella'tum.* Wrapper with many clefts, expanding. Head on a ſhort ſtem, ſmooth. Mouth tapering upwards, toothed.— *ſtellated*

Bolt. 179.—*Gent. Mag. feb.* 1792.—*Bryant Lyc. f.* 12. 13. 14. 16. 17.—*Ray ſyn. p.* 29. *T.* 1. *f.* 1.—*Mich.* 100. 2.—*(Schæff.* 182, *theſe are ſtemleſs, but ſo well repreſent our plant, in a recent ſtate, that I do not heſitate declaring it to be ſuch. It is referred to Ray's figure which has a ſtem. Mich.* 100. *f.* 5. *The fig. of Tourn. and Fl. dan. are too bad to be quoted. Mr. Woodward.)*

When freſh opened the head appears ſitting, owing to the thickneſs of the interior ſpongy coat of the wrapper. After a few days, this cracks, as repreſented by Mich. t. 100. f. 5, and peels off, and then the ſtem appears. I apprehend it to be owing to this that ſome authors have deſcribed the head as ſitting, and others as ſupported on a ſtem, and it is therefore very difficult to aſcertain whether they ſpeak of this plant or of the L. recolligens. Mr. WOODWARD.—

Mouth often ſmooth when firſt open, but in time ſplits into teeth. Mr. ROBSON.—Head about 1 inch diameter, bluiſh brown. *Wrapper* brown.

Meadows, paſtures, hedge banks, Sept. Oct.

VAR. 1. Head flatted. Mouth long, taper; teeth large.

Bryant Lyc. f. 19, *the head only well expreſſed.* Mr. WOODW.

This, which is found on dry banks, uſually amonſt Ivy, is different from being ſmaller, and having the head flat at top, and the mouth extremely conical. It is almoſt black when dry, and the Rays uſually turn up at the point, but do not riſe ſo as to cover the head in the manner of L. recolligens. Mr. WOODWARD.

turret LYCOPER'DON *fornica'tum.* (HUDS.)—Wrapper with 4 clefts; arched. Head ſmooth; mouth blunt, fringed; ſtem ſhort.—

Schæff. 183.—*Phil. tranſ. abr.* x. 20. *p.* 107; *cop. in Blackſt. at p.* 24, *but the outer coat too ſmooth.*—*Batſch.* 168.—*Bryant Lyc.* 15 *and* 20.—*Battar* 39. *f.*—4.

The *Rays* may be ſometimes 3 or 5, but only accidentally. The double wrapper adhering by the points which is never ſeen in any of the varieties of the L. ſtellatum is a grand diſtinctive mark, for the wrapper remains ſunk in the ground, not being reverſed and thrown out as in the ſtellatum, &c. Mr. WOODWARD.—Wrapper 1½ inch in diameter, rough and aſh coloured on the outſide, ſmooth and whitiſh within. Inner coat whitiſh within, reddiſh yellow without. Head oblate ſpheroidal, brown, 6-8ths of an inch in diameter. Stem hardly ¼ of an inch in height. Dr. WATSON in Phil. tranſ.

Meadows and paſtures, at Buckebury, 10 miles from Reading, about Wickham, near Bromley, Kent; BLACKST.—near Doncaſter, TOFIELD *in fl. ang.*—Near Norwich on the ſlopes of old banks in a loamy ſoil, moſtly in an eaſtern and next to that a weſtern aſpect, commonly at the root of a ſhrub or tree. BRYANT.—On the Links, Newmarket Heath. RELH.—[Near Hanley Caſtle, Worceſterſhire. Mr. BALLARD.] Oct.—Jan.

hygrometer LYCOPER'DON *recol'ligens.* (SCHMID.)—Wrapper with many radiating ſpear-ſhaped ſegments; Head ſitting, globular but compreſſed, aperture tapering upwards. Mr. WOODWARD.

Schmid. 27 *and* 28, *f.* 20 *to* 31.—*Bull.* 238 *and* 471. 1.—*Mich.* 100. 5, *cop. in Gled.* 6, *Lycoperdon f.* 2.—*Bull.* 238.—*Bryant f.* 19.

The

The rays of the wrapper when fully expanded seldom exceed 1½ inch, though I have found them twice that size. They are nearly equal, and regularly spear-shaped. Outer coat of a bright silvery white; inner coat much thinner than in any other species and does not crack and flake off, but soon dries, when it acquires a chesnut colour; smooth, rather shining. *Head* compressed, yellow white or dirty buff, perfectly stemless. Mouth conical, ciliated. Segments of the wrapper when dry entirely inclosing the head, when moist expanding and perfectly flat. It may be made to undergo these changes at pleasure by putting it in a saucer with a very little water, when in an hour or two it will expand and again contract if suffered to dry. This property it retains for years if kept in a dry place. Plants of the Lycoperd. stellatum often appear stemless, but in a few days they invariably shew the foot-stalk. Mr. WOODWARD.

Earsham, Norfolk; and Mettingham near Bungay, Suffolk. Mr. WOODWARD.

LYCOPER'DON *Carpo'bolus*. Wrapper with many clefts. Fruit globular, composed of seeds united together.— *projectile*

Fl. dan. 895.—*Mich.* 101. 1, 2.

Whitish, of the size of a pin's head, opening into an expanding border with 5, 6, or 7 clefts. From the disc an oval vesicle as tall as the disc, leaps up, exploding its contents with an elastic spring. FORSKAHL *in Linn.*—This peculiar property of the Carpobolus, whence it has its name, seems to remove it from the Lycoperdons, though the leathery sac containing the seeds brings them near together. If this be made a distinct genus, the Mucor urceolatus will associate with it. Mr. WOODWARD.

On rotten saw dust. BROWN *in Dill. musc.* 55. On rotten wood in woods and hedges. HUDS. Aug.—Oct.

** With a Stem.

LYCOPER'DON *pedunculatum*. Stem hollow, long. Head globular; smooth. Mouth cylindrical, very entire.— *long-stalked*

Bull. 294.—*Batsch.* 167.—*Tourn.* 331. *E, F.*

Stem hollow, cylindrical, stiff, near an inch high, and thick as a swallow's quill. *Head* globular, ¼ to ½ inch diameter, rather compressed, aperture small, oblong, surrounded with a tubular ring. Colour pale, ochrey. BATSCH.

Meadows and pastures. [Common about London. Mr. WOODW.] August—Oct.

pitted LYCOPER'DON *verruco'ſum.* Stem very ſhort, root large; head globular but compreſſed, olive brown, pitted.—

Bull. 24.

Head yellow, pitted, like the remains of the ſmall pox, the pits very minute and varying in depth; diameter 1 to 1½ inch. *Fleſh* white, changing to pinky when expoſed to the air, woolly. *Seeds* pinky grey. *Stem* ſolid, very ſhort, white, thickening into a large woody root.

Edgbaſton, by the Little Pool dam. 24th Aug. 1792.

paraſitic LYCOPER'DON *paraſit'icum.* On a ſtem. Head nearly globular, tawny, brittle. Seeds black. Mr. Wood.

This elegant little plant was ſent to me by the Rev. Mr. Wood, of Leeds, in the year 1784. It grows in cluſters upon other plants; one cluſter of thoſe I received were attached to a ſtem of graſs, and another to a piece of Hypnum. The ſtem is cylindrical, yellow white, about 1-20th of an inch in length. The head globular, dull yellow or tawny, thin, brittle, opening at the top and diſcharging a black powder. Its ſize that of a ſmall pin's head.

In the neighbourhood of Leeds, Yorkſhire. Mr. Wood.

Nov. Dec.

orange LYCOPER'DON *aurantia'cum.* Sphæroidal; wrinkled at the baſe, furniſhed with a ſhort ſtem; ſegments at the opening bluntly notched.—

Bull. 270.—*Vaill.* 16. 9. 10.—*Mich.* 99. 2.

The ſtem or neck much plaited where it joins the root. The ſubſtance bluiſh purple, changing to tawny when the ſeeds are ripe. Its ſhape reſembles that of a turnip, its colour varies from pale to greeniſh yellow, to orange or dull dirty yellow; its diameter from 2 to 5 inches. Bulliard.

I am obliged to Mr. Relhan for the knowledge of this being an Engliſh ſpecies. He tells me he found it on a common near Derby.

*** Nearly Stemless; large.

variable LYCOPER'DON *pro'teus.* (Bull.)—Roundiſh, turban-ſhaped, or thinner downwards. Fleſh white; ſeeds dark coloured; ſkin thin, flaccid.—

Lycoperdon *(Boviſta)* ſubrotundum: lacerato-dehiſcens. Linn. and its varieties.

Obs.

Obs. Growing on the ground, when young white, or pinky grey; tawny grey when full grown, and brown when old. Bull.—The arrangement of this ſpecies and its numerous varieties is taken from M. Bulliard, whoſe figures and deſcriptions are far ſuperior to thoſe of any of his predeceſſors. Surrounded with three coats; the outer coat tender, eaſily abraded, the middle coat tough, leathery, ſmooth; the inner coat connected with the ſubſtance. Bolt.

Var. 1. *great.* Globular, ſitting, very large.

Bull. 447.—*Schæff.* 191.—*Cluſ.* ii. 288, *repr. in Dod.* 484, *and cop. in Park.* 1323. 32.—*Sterb.* 28. *C. E.*

Sometimes as much as 12 or 15 inches in diameter.

L. Boviſta. *β* Huds.—L. Boviſta. 1. Lightf.

Bunt. Frog-cheeſe. Puckefiſt.

Paſtures, and road ſides amongſt graſs. Aug.

The fumes of this when burnt have a narcotic quality, and on this account it is ſometimes made uſe of to take a hive without deſtroying the bees. This too as well as the former is ſometimes uſed as a ſtyptic.—It is uſed to carry fuel in from a diſtance.

Var. 2. *onion-ſhaped.* Globular but flatted.

Bull. 435. 2.—*Schæff.* 184.—*Mich.* 97, 3 *and* 4, *cop. in Gled.* 5. 5.—*Bolt.* 117. *c. d. e.*

Sometimes pointed at the top, ſometimes a little tapering at the bottom. Surface ſmooth, or ſcurfy, or cracked; ſometimes almoſt prickly at the top. From ¾ to 1¼ inch diameter. Root, a ſmall bundle of black fibres.

Lycop. Boviſta. 5. Lightf.

Very common.

Var. 3. *egg-ſhaped.* Shaped like an egg, the ſmall end downwards.

Bull. 435. *f.* 3; *and* 475.

Often grows in cluſters. Sometimes the lower part tapers ſo much as to form a kind of ſtem; its ſurface is ſmooth, or granulated, or ſcurfy. About the ſize of a pigeon's egg. Bulliard.

On old turf, common.

Var. 4. *pear-ſhaped.* Running inſenſibly into the preceding and ſucceeding varieties.

Bull. 32 *and* 475. *B. D. M.*—*Schæff.* 185—189.—*Bolt.* 117. *d.*—*Mich.* 97. 5.—*Tourn.* 331. *A. B.*—*J. B.* iii. 848. 2.—*Garſ.* 279. 3.—*Sterb.* 29. *F.*

One to 2 inches or more in diameter. Tapering at the baſe, ſometimes ſo as to give a ſtem-like appearance. Surface ſmooth, or granulated or rough as if prickly. Subſtance within grey, changing to brown. Bulliard.—In cluſters. About 1¼ inch high, and ¾ diameter. Pear-ſhaped, puckered towards the root, not filled with duſt,

duſt, therefore eaſily compreſſible. Brown on the outſide, thick ſet and rough with riſing dark brown prominencies, on a ground of a lighter brown. Inſide covered with a ſoft woolly ſubſtance, amongſt which the duſt is lodged. A receptacle, or more ſolid tuft of the ſame woolly ſubſtance alſo riſes up in the middle from the root. Such is the deſcription of the ſmaller ſpecimens, the larger ones are ſhaped like the head of a knobbed walking ſtick; varying greatly in ſize, from 1 to 2 inches high, and from ½ to 1½ in the greateſt diameter; burſting at the top. Colour white. *Surface* ſtudded with riſing papillæ, of different heights, ſome blunt, others pointed and black at the points. Studs on the ſtem part much fewer than on the globular part. *Inſide* white when young, greeniſh grey when older. The bulbous part more ſolid, the ſtem part more cellular.

Lycop. Boviſta. γ Huds.—ζ Huds.—L. Boviſta. 2. Lightf.

Paſtures, Edgbaſton. Aug.—Oct.

Var. 5. *winter.* Plaited at the bottom; turban-ſhaped; with or without a ſtem.

Bull. 72, *and* 475, *E.—Schæff.* 186—190.—*Bolt.* 117, *a. b.*

When ripe and ſhedding its ſeeds, there appears like a partition between the upper globular, and the lower ſtem-like part; and the contents of this latter part are rather pithy than powdery and ſeed-like.

Lycop. Boviſta. α Huds.—L. Boviſta. 5. Lightf.

In woods and paſtures; late in the autumn and in winter.

Var. 6. *pitted.* The lower ſtem-like part irregularly pitted.

Bull. 52.—*Vaill.* 12. 15.—*Schæff.* 295.—*Bolt.* 117. *f.*

Var. 7. *rough.* Prickly; tapering at bottom ſo as to form a ſtem.

Bull. 340.

This gradually runs into the pear-ſhaped variety. The prickly coat readily ſeparates. The ſtem-like part is ſeparated from the head by a tranſverſe membrane. From 1 to 2½ inches in diameter. Bulliard.

Lyc. Boviſta. ε Huds.

Var. 8. *peſtle-ſhaped.* Stem thinneſt upwards.

Bull. 450. 2. *and* 475, *F. G. H. I.—Bolt* 117. *g.—Vaill.* 12. 16. *—Schæff.* 187.—*Mich.* 97. 1, *cop. in Gled.* 5. *Lycoperd. f.* 4. *—Mich.* 2.—*Mich.* 98. 1.

Surface rough or ſmooth. Stem generally thickening downwards. Globular part from 1 to 2 inches diameter. Stem near 3 inches high, and about 1 inch diameter. Bulliard.

Lycop. Boviſta. ν Huds.—L. Boviſta. 3. Lightf.

Woods, [near Bath. Mr. Stackhouse.] Summer and Autumn.

LYCOPER'DON *globo'sum.* (BOLT.)—Stemleſs, white, changing to black, a regular globe, with only two coats.— *globe*

Bolt. 118.—*Sterb.* 29. *H.*

Snow white when young, and white within; black in decay. Opens with a very large aperture; diameter about 2 inches. BOLTON.

Fields, very common.

LYCOPER'DON *defos'ſum.* (BATSCH.)—Stemleſs, leathery, globular, when open the coats turning in; half buried in the earth.— *leathery*

Batſch. 229.

Rudely ſemi-globular when ripe, 1½ to 2 inches diameter, compreſſed, and opening with large rents at the top, when quite open the coats curl inwards. Baſe rude, knotty, buried in the earth. *Skin* thick, leathery, ſtrong, dirty yellow white, or brown, very uneven, but not rough. Powder brown dirt colour, not evidently intexmixed with woolly fibres, but brittle. BATSCH.—More leathery than any I have ſeen, with a very large leathery root. Mr. STACKH.

Drawing ſent me by Mr. Stackhouſe, but no habitat.

LYCOPER'DON *ardoſia'ceum.* (BULL.)—Stemleſs; nearly globular, flexible, purpliſh lead colour, red within, changing to brown. *ſlate-coloured*

Bull. 192, *the* 4 *lower figures to the right hand.—Batſch.* 166.

Grows on the ground only. Exiſts long after the diſperſion of the ſeeds, and rattles like parchment. BULLIARD.

Common on ſandy heaths in Norfolk. Mr. WOODWARD.

**** STEMLESS; ſmall.

LYCOPER'DON *goſſyp'inum.* (BULL.)—Head pear-ſhaped, white, cottony, tapering downwards ſo as to form a ſtem. Seeds brown.— *cotton*

Bull. 435. 1.—*Bolt.* 178.—*Willd. ſt. Berol.* 7. 20.

From ¼ to ½ inch high, wholly white, ſoft, flexible, cottony. Stem taper, or bellying. Head from 1 to 2-10ths of an inch diameter. wholly brown when old. BULL. and BOLT.

On rotten wood. BULL.—On old hoofs of beaſts. BOLTON.

LYCOPER'DON *piſifor'me.* Stemleſs, globular, rough. Mouth perforated.— *pea*

Jacq.

Jacq. misc. i. 7.

The size of a pea; sitting, crowded, browniſh, rough with minute warts, opening at the top. Mouth ſmooth. Nearly allied to the L. epidendron, but has only one coat, whereas that has two. JACQ. —Mr. Bulliard from inattention to this circumſtance has placed it as a variety of the L. epidendron. It is either tawny or ſmoke coloured, but always rough and warty, whereas the Lycoperdon epidendron is ſmooth.

yellow LYCOPER'DON *epiphyl'lum.* Cluſtered, paraſitical. Mouth with many cleſts, torn. Duſt tawny.—Small, ſitting, tawny, variable in figure, RELH. *n.* 983.—not Lyc. epiphyllum of Lightfoot, which is Trichia turbinata.—

On the back of the leaves of Tuſſilago. Decaying wood, leaves, and moſſes. [On the leaves of T. Petaſites. Mr. WOODWARD.]

Aug.—May.

aſh-coloured LYCOPER'DON *cine'reum.* (BATSCH.)—Blue grey, globular, rough and branny. Seeds like ſand, large, black, intexmixed with zigzag white fibres.—

Batſch. 169.—*Mich.* 96. 9.

About the ſize of a pin's head; brittle. BATSCH.

Found by Mr. Relhan on rotten leaves in Madingley Plantations, Cambridgeſhire. Aug.

purple LYCOPER'DON *Epiden'drum.* Small, globular, brittle. Bark and duſt purple.—

Bull. 503, *and* 192, *the lower left hand and the upper right hand figures.* —*Bolt.* 119. 1.—*Fl. dan.* 720.—*Schæff.* 193.—*Buxb.* v. 29. 2. —*Mich.* 95. 2. *A.*

This plant is globular, from ¼ to ½ inch diameter. When unripe the fleſh is red; when ripe, the ſeeds are pinky grey.

It is 1. Orange coloured and ſmooth.

2. Vermillion coloured; black at the bottom.

3. Lead coloured; ſmooth.

The tawny and ſmoke coloured varieties of M. Bulliard belong alſo to the Lyc. epidendrum, but it does not appear that they have yet been found in this Iſland.

An elegant little fungus when freſh. Purple; frequently confluent. Mr. WOODWARD.

Not properly a Lycoperdon.

Lyc. varioloſum. HUDS.

On

On rotten wood, after rains. [At Field Dalling, Norfolk, on an old block. Mr. WOODWARD.]

LYCOPER'DON *frag'ile.* (DICKSON.)—Parasitical, mostly sitting, inversely egg-shaped, brown. Bark shining, brittle. Meal black, with soft hairs intermixed.— *brittle*

Dickſ. 3. 5.

Pear-shaped, about 1-10th of an inch high, and nearly half as much in breadth. *Stem*, when any, membranaceous. It grows in clusters, and if the head when young should prove to be whitish, transparent or bladder-like, it must be referred to the genus Mucor. DICKSON.

On ling, moss, leaves of ivy, &c.

RETICULA'RIA. (BULLIARD.)

Ess. CHAR. Soft and gelatinous when young; when older firm, friable, tearing open indiscriminately and discovering Seeds entangled in capillary fibres, reticulated membranes, or leathery cases.

OBS. Never subterraneous; generally growing on other vegetables; seldom with stems, cushion-shaped or globular. Sometimes serpentine in its figure. BULLIARD.—It is nearly allied to the genus Trichia, and also to some of the Lycoperdons. It seems to include what Haller intended by his new genus FULIGO; and probably a little more observation will demonstrate that neither the Fuligo of Haller, nor the Reticularia of Bulliard, can properly embrace the whole of the other, and therefore that both must be adopted.

RETICULA'RIA *Lycoper'don.* Stemless. Capsule membranaceous, somewhat egg-shaped, fibrous within.— *puff-ball*

Bull. 476. 1.—*Bolt.* 133. 2.—*Mich.* 95. 1, *Lycogala; cop. in Gled.* 6. *Mucor. f.* 1. *a.*

Brown and somewhat pear-shaped when young; white and egg-shaped when old. From ½ inch to more than an inch long, and half as much in diameter. BOLTON.

Mucor Lycogala. BOLT.—Lycoperdon fuscum. HUDS.

On rotten trunks of trees. Sept.—May.

VAR. 1. Brown, powdery and brown within.

I was long doubtful under what genus this ought to be placed. It rents open indiscriminately, which excludes it from the Lycoperdons, and in its want of evident woolly fibres or membranes, it appears

appears to differ from the Reticularia, and the powder not being black excludes it from the Fuligo of Haller. But in the larger ſpecimens and in its more advanced ſtages of growth, the woolly fibres become ſufficiently evident. I have always found it upon cloven oak rails. It is generally egg-ſhaped, but flatted on the ſide next the rail, to which it adheres by a large ſurface, without any evident root. It is from the ſize of a large pea to that of a Spaniſh cheſnut. Its colour brown, or reddiſh brown like a cheſnut, but this latter colour only appears where it loſes its outer ſkin, which is ſilvery grey. The ſurface is ſmooth and ſhining, the whole ſubſtance very light, and the coats very thin and brittle. The powder is of a reddiſh brown colour, and ſo extremely fine that the moſt powerful miſcroſcope is neceſſary to ſhew that its component particles are egg-ſhaped. When rubbed upon the hand it prevents its being wet though immerſed in water.

The figures cited for the Reticularia Lycoperdon would convey a good idea of it, were they of the right colour, and Schæffer, pl. 95, f. 3, is ſomething like it, but too rough. I have never found it in a ſoft ſtate. July—Sept.

cuſtard RETICULA'RIA *ſep'tica*. Yellowiſh, viſcid, ſlimy, of various ſhapes.—

Schæff. 194.—*Fl. dan.* 778.

This always grows on decayed wood; is of a ſmooth uniform ſubſtance, not wrinkling like the R. ovata. In drying it forms a ſmooth, thin, ſhining coat, inſtead of the ſcales which compoſe the outer coat of the latter. At firſt it reſembles thick cream, or the running of cream cheeſe. Mr. WOODWARD.

Mucor ſepticus. LINN.

On rotten wood, &c. [On old ſtumps of trees, frequent. Mr. WOODWARD.] Sept.—May.

VAR. 1. Whitiſh.

Bull. 424. 2.

Large, cottony and ſoft when young; brittle when old. Seeds in large membranaceous cells. BULLIARD.

Reticularia hortenſis. BULLIARD.

VAR. 2. Reddiſh.

Schæff. 195.

Have frequently ſeen it tinged with red, and ſometimes more ſo than the fig. in Schæffer's plate. Mr. WOODWARD.

RETI-

RETICULA'RIA *ova'ta*. Stemleſs, egg-ſhaped, *frothy* mucilaginous, hairy, yellowiſh. Gills cellular, vaniſhing, turning to duſt, blackiſh. Seeds black, adhering to threads. SCHÆFF. *ind.* 132.

Schæff. 192.—*Bolt.* 134.—*Mich.* 96. 2.—*Bull.* 380. 1.

On moſs or leaves bright yellow; on tanner's bark pale brown, and on this laſt it ſometimes covers a ſurface of more than a foot diameter. Haller ranks it, as Lightfoot obſerves, under his genus *Fuligo*, with the characters of which both this and Lycoperdon epiphyllum correſpond. Mr. WOODWARD.

M. ſepticus of Lightf. 1073. Mr. WOODWARD.

Woods on graſs and other herbage. Aug.

VAR. 1. White, frothy, large, turning to a black powder.

Bull. 326.

I once found this on the ſtump of an elm which had been ſawn off cloſe to the ground, of a very great ſize, not leſs than ½ inch thick in the maſs, and from 12 to 15 inches diameter. It continued white about 5 days.

Reticularia alba. BULLIARD.

SPHÆ'RIA. (HALLER.)

FRUCTIFICATIONS moſtly ſphærical, opening at the top, whilſt young filled with jelly, when old, with a blackiſh powder.

SITUATION, on the bark or wood of other plants. *Capſules* often immerſed, ſo that their orifices only are viſible.

OBS. This genus has been much enlarged, in conſequence of the attention lately beſtowed upon the minuter fungi, but I cannot conſent to arrange any of the CLAVARIAS under it, for though the diſcoveries of Micheli and ſome later botaniſts, have ſhewn in ſome ſpecies of Clavaria an agreement in the ſtructure of the Capſules, with thoſe of the Sphæria, yet Schmidel has demonſtrated a ſimilar ſtructure in ſtill other ſpecies of Clavaria, and it moſt probably prevails in all, ſo that the two Genera muſt on this ground be melted into one, notwithſtanding the very ſtriking differences in other reſpects. Indeed if this principle were allowed, it is probable that the Lichens muſt alſo be brought into the ſame Genus, nor is it eaſy to ſay where the confuſion would end. Under this Genus ſeveral plants are placed which I am aware do not very well accord with their ſituation, but as our knowledge is not yet ſufficient to enable

us

us to ſtrike out an unexceptionable arrangement of them, it is perhaps better to ſubmit to the preſent inconvenience, than to increaſe the confuſion by a premature attempt at reformation. Mr. Bulliard has divided the Sphæria of Haller into two Genera, viz. Hypoxylon, and Variolaria; his genus Sphærocarpus alſo contains one or two ſpecies which ſome would think might aſſociate with the Sphæria's. But though I have not adopted Mr. Bulliard's method, for reaſons juſt now aſſigned, yet I am perſuaded that ſomething like it will ſoon be thought neceſſary.

* With a STEM.

inſect SPHÆ'RIA *entomorhi'za*. Head roundiſh, brown, ſupported on a ſtem. DICKS. 22.

Dickſ. 3. 3.

Stem ſingle or double, ſomewhat compreſſed, 2 inches high and upwards. *Head* ſpherical, granulated on the ſurface. DICKS.—This having been called a Sphæria by the authority above-mentioned, muſt ſtand under this genus, but the mode of fructification does not appear to have been ſufficiently attended to. Its habit ſpeaks it to be a MUCOR.

On the dead larvæ of inſects in woods near Bulſtrode, Buckinghamſhire. Autumn.

glaucous SPHÆ'RIA *glau'ca*. Naked. Spherules turban-ſhaped, ſea green without, white within. BOLT.

Bull. 470. 2.—*Bolt.* 120. 2.—*Batſch.* 169.

In the ſpecimens and drawing I received from Mr. Knapp, the ſtems are rather more diſtinct than they are repreſented in Mr. Bolton's figures.

Lich. cæruleo-nigricans. RELH. 847.

Sphærocarpus capſulifer. BULLIARD.

On Braham Moor near Leeds. [In a garden on Bucks, growing on a dead leaf. Mr. KNAPP.] Nov. Dec.

** STEMLESS.

downy SPHÆ'RIA *tomento'ſa*. Simple, cluſtered, ſnowy, downy. RELH. 1107.—Stemleſs, incorporated, ſomewhat downy. BOLT.

Bull. 492. 1.—*Bolt.* 125.—*Mich.* 54. *ord.* 37. 5.

Cruſt none. *Spherules* minute, globular, covered with a ſnowy down, ſometimes confluent, marked with a few black minute dots, on

on losing their down turning black, become indurated and permanent. *Flesh* black. RELH. *suppl.* ii. 31.—Fixed to the inner bark of dead branches, forcing its way through the outer bark. It is in clusters; each cluster about the size of a large mustard seed. BOLT.

S. obducta. BOLT.

Decayed wood in Madingley Plantations. RELH.—On fallen decaying branches of trees. BOLT.—Aug. Sept. RELH.—Feb. BOLT.

SPHÆ'RIA *vir'idis*. Simple, globular, green. Bark granulated. Granules brown. BOLT. *green*

Bolt. 121. 2.

About the size of a white mustard seed, green, when dry pale brown. BOLTON.

On small sticks and stems of plants when in decay.

SPHÆ'RIA *sanguin'ea*. Simple, egg-shaped, blood-coloured, perforated at the end. BOLT. *blood colour'd*

Bolt. 121. 1.—*Bull.* 487. 3.

Thickest at bottom, the size of a poppy seed, in clusters, opening at the top; blood red, shining, white within. BOLTON.

Hypoxylon Phæniceum. BULL. 171.

On rotten wood beside the spring of Elm Cragg Well, at Bell Bank near Bingley, Yorkshire. June.

SPHÆ'RIA *mo'ri*. Simple, clustered, scarlet, very small. WIEG. *obs.* 45. *scarlet*

Bolt. 120. 1.—*Wieg. obs.* 2. 11.

Crust none at all. *Spherules* in heaps, but not confluent, globular, very small, bright scarlet. DICKS.—Narrowest at the base, orange colour when young; bright scarlet when full grown; black in decay. BOLTON.

On the decayed bark of trees.

SPHÆ'RIA *grega'ria*. Simple, in irregular clusters, of a red lead colour. Crust whitish, tender. WIEG. *obs.* 43. *gregarious*

Wieg. obs. 2. 10. *a.*

Crust thin, smooth, whitish. *Spherules* very minute, irregularly crowded, often in a stellated form, closely compacted; red. DICKS.

On the bark of trees, particularly the cherry. Feb. April.

SPHÆ'RIA *fragifor'mis*. Red, resembling a strawberry. HALL. *n.* 2190. DICKS. 24. *strawberry*

Hall. enum. 2. 10, *at p.* 91, *repr. in hiſt.* 47. 10, *at* ii. *p.* 88.

When young red, when old black. DICKS.—Rough with granulations; ſubſtance hard, thick, hollow and black within. HALLER.

On rotten wood. Sept.

purple SPHÆ'RIA *Tremelloi'des.* Compound, ſolitary, ſometimes on a ſtem; nearly globular, purple, ſomewhat jelly-like. WIEG. *obſ.* 46.

Bull. 284.—*Wieg. obſ.* 3. 1.—*Bolt.* 127. 1.—*Dill.* 18. 6.—*Mich.* 95. 3, *cop. in Gled.* 6. *Mucor. f.* 8. *a.*

This plant is not abſolutely without a ſtem, but the ſtem is very ſhort and nearly as thick as the top, entering into the ſubſtance of the bark on which it grows. In ſome ſpecimens the top part is of a full vermillion, and the lower part of a yellowiſh colour. In other ſpecimens this order of colour is reverſed. It is common in this latter variety to find young ſhoots growing up cloſe to the ſtems of the older plants, the heads of which have the full vermillion colour.

Tremella purpurea. LINN. HUDS. LIGHTF. — Sph. miniata. BOLT.

On pieces of half rotten ſticks, plentiful.

Autumn, Winter, and Spring.

black SPHÆ'RIA *lycoperdoi'des.* Compound, convex, moſtly ſolitary. Pith mealy, black. Rind tawny, friable. WIEG. *obſ.* 47. *n.* 10. *α.*

Wieg. obſ. 3. 2, *a.*

Paraſitical, ſitting, roundiſh, ſcattered, at firſt tawny, ſoft, ſucculent, when more advanced the bark falling, they become brown and indurated, at length opening, appearing quite full of a black compact powder. LINN. *ſyſt. pl.* iv. 626. — Some globular, others oblong, ſomewhat flatted, ſolitary. LINN. *ſyſt. nat.* III. 234.

Lycoperdon varioloſum.

On the decayed bark of trees and on ſticks. Jan.—Dec.

leafy SPHÆ'RIA *riccioi'dea.* BOLT.)—Leathery, branched, tawny, ſpreading; ſegments cloven.—

Bolt. 182.

From 1 to 2 inches diameter; tough, hard, leathery, deep tawny, tending to orange colour. White within. Surface roughiſh from the prominencies of the tubercles underneath. BOLTON.

On branches of ſallow and hazel when ſo decayed as to cruſh between the fingers. Feb.

SPHÆ'-

SPHÆ'RIA *mammo'ſa*. Solitary, ſemi-globular, olive-coloured. HALL. *n.* 2181. *ſemi-globular*

Mich. 55. *ord.* 2. 1.

Though growing many together, they are never united. Mr. WOODWARD.

S. mammiformis. RELH. n. 987.

On rotten wood. Sept.

SPHÆ'RIA *rugo'ſa*. Stemleſs, cluſtered, globular, aſh-coloured, wrinkled, large. BOLT. *rough*

Bolt. 123. 2.

From ¼ to ½ inch diameter, rough, hard and dry like wood. BOLTON.

Southowram near Halifax, on the bark of dead and fallen elm branches.

SPHÆ'RIA *max'ima*. Large, thick, black, marked above with puſtules. WEB. *n.* 301.—HALLER 2192.—DICKS. 23. *puſtulous*

Bull. 487. 1.—*Bolt.* 181.—*Mich.* 54. *ord.* 2. 1.

Puſtules very obvious. RELH.—Grey black, inflated, friable; ſurface uneven; cells diſtinct; from ¼ to ¾ of an inch diameter. BULL.

On rotten wood.

SPHÆ'RIA *fraxin'ea*. Roundiſh, convex, black, dotted. HALL. *n.* 2192.—Nearly ſitting, puſtular. RELH. *n.* 1059. *aſh*

Bolt. 180.—*Schæff.* 329.—*Bull.* 487. 2?—*(Mich.* 54. *ord.* 2. 1, *is Sphæria maxima.)*

Convex, ſmooth without; ſubſtance within conſiſting of a number of concentric layers compoſed of minute tubes or threads pointing from the center. Subſtance hard; covered with a thin bark of a browniſh black, ſomewhat wrinkled and rather gloſſy, grey within. RAY.—Very irregular in ſhape; from ½ to more than 1 inch diameter. *Puſtules* ſcarcely viſible to the naked eye. RELH. *ſuppl.* i. 34.—This which is very common, differs from the Sph. maxima in being more woody and ſhewing concentric circles when cut. It is generally more compleatly ſeſſile than it is repreſented in the figures.

Lycoperdon fraxineum. Hudſ.—Sph. concentrica. Bolt.

On aſh trees when rotten or in a decaying ſtate, and obſerved on no other tree. RAY.

knobbed SPHÆ'RIA *tuberculo'ſa.* (LIGHTF.)—Black, convex; fleſh black. HALL. *n.* 2187. — Stemleſs, incorporated, tubercled, brown. Spherules of the ſame colour. BOLT.

Bolt. 123. 1.—*Wieg. obſ.* 3. 2. *b. c.*—*(Hall.* 47. 9, *at* iii. *p.* 88, *the right hand figure is a good repreſentation of it, but is S. depreſſa.* —*Mich.* 54. *ord.* 2. 2, *muſt be a different ſpecies as the plants are ſurely concave.*—*Dill.* 18. 7, *is S. depreſſa.)*

About 1-10th of an inch over. It always grows on the inner bark of the branch, forcing its way through the outer bark. BOLT.

On dried ſticks, decayed bark of trees, LIGHTF.—and rotten wood. DILL.—Moſt commonly on hazel. BOLT. Sept.—Apr.

ſhining SPHÆ'RIA *nit'ida.* Simple, moſtly ſolitary, nearly hidden, ſhining, black, cruſt ſheath-like, cracked. WIEG. DICKS.

Wieg. obſ. 2. 14.

Cruſt pale brown or yellowiſh, cracked, incloſing the ſpherules to half their thickneſs. WIEG. obs. p. 45.

On the bark of trees.

depreſſed SPHÆ'RIA *depreſſa.* Stemleſs, incorporated, black, ſhining. BOLT.

Bull. 432. 2.—*Bolt.* 122. 1.—*Dill.* 18. 7.—*Wieg. obſ.* 3. 3.—*Hall. enum.* 2. 9, *at p.* 91, *hiſt.* 47. 9, *at* iii. *p.* 88.—*Mich.* 54. *ord.* 2. 2?

Intenſely black, ſhining, hard, granulated, white within. BOLT.

On the outer rind of decaying branches of trees. BOLT.

cluſtered SPHÆ'RIA *aggrega'ta.* (RELH.)—Aggregated, paraſitical, ſphærical, mouth entire. LIGHTF. 1069.—HUDS. 653.—Simple, globular, black, ſhining. BOLT.

Bolt. 122. 2.—*Lightf.* 31, *lowermoſt figure, at p.* 962.—*(Mich.* 54. *ord.* 37. 4, *has a cruſt extending beyond the ſpherules.)*

Small, black, about the ſize of and reſembling the head of a black hair pin. RELH. *ſuppl.* i. 35.—Very much reſembling fine gunpowder. BOLT.—Perfectly globular, the ſize of ſmall pins heads; grows in thick cluſters; principally on decayed ſtumps of trees. Mr. WOODWARD.

Sph. Bombardica. BOLT.—Lycoperdon nigrum. LIGHTF.—Lyc. aggregatum. HUDS.

Trunks of rotten trees and rotten wood. Oct.—May.

furrowed SPHÆ'RIA *ſulca'ta.* Stemleſs, incorporated, oblong, furrowed. BOLT.

Bolt.

Bolt. 124.—*Mich.* 54. *ord.* 37. 2.—*Hoffm.* 3. 2. *e.*

About the ſize of a flea, blackiſh, oblong, with a deep furrow extending from end to end. BOLTON.

Lichen ſcriptus. β pulicaris. LIGHTF. 801.

On decayed branches of aſh trees. BOLT.—[Norfolk and Suffolk. Mr. WOODWARD.]

SPHÆ'RIA *byſſa'cea.* Simple, ſolitary, very ſmall, black. Cruſt ſnowy white, powdery. WIEG. DICKS. *byſſus*

Wieg. obſ. 2. 9.

Cruſt white, powdery, ſpreading. WIEG. 43.

On the bark of oak trees.

SPHÆ'RIA *bras'ſicæ.* Of various ſhapes, black, fleſh white. DICKS. 23. *cabbage*

Bolt. 159. 2.

Cruſt none. *Spherules* ſimple, often confluent, of various ſhapes and ſizes, from that of muſtard ſeed to that of a pea. DICKS.

On rotten leaves of cabbage, vulgarly ſuppoſed to be cabbage ſeed, and on rotten roots of parſneps; common.

TRIC'HIA.

Ess. CHAR. In cluſters. Moſtly fixed to a membranaceous baſe. Capſules globular or oblong: Seeds eſcaping from its whole ſurface through openings made by the ſeparation of the fibres.

OBS. Capſule globular, oblong turban-ſhaped, or nearly cylindrical, tranſparent, in colour and tenacity like cream. Opake when older, columnar, filled with woolly fibres, its coat compoſed of a fibrous texture, at firſt compact, opening gradually, and then reſembling a lock of wool, the ſeeds eſcaping through every part of the ſurface. This includes alſo the Sphærocarpus of M. Bulliard, which ſeems to differ only in conſiſtence.

* With a STEM.

TRIC'HIA *nu'da.* Ruſty brown. Stem hair-like. Capſule egg-ſhaped, changing to cylindrical, perforated by the ſtem.— *naked*

Bull. 477. 1.—*Mich.* 94. 1. 2, *Clathroidaſtrum*; *cop. in Gled.* 4, *Stemionitis. f.* 2. 5. 6. 8.—*Bolt.* 93. 1.—*Batſch.* 176.—*Fl. dan.* 216.—*Schæff.* 297.

Stem black, ſhining, extending through the capſule up to its top. Capſule white, egg-ſhaped; ruſty brown with age, and nearly cylindrical, the fibres of the coat opening ſo as to ſuffer the ſeeds to eſcape between them. It varies in a longer or a ſhorter ſtem. The whole plant is from 3 to 5 lines high. BULL.

Clathrus nudus. LINN.

On rotten wood, particularly in hollow ſtumps. May—Oct.

VAR. 1. Stem broadeſt at the baſe. Capſule always cylindrical.

Bull. 477. 2.

Ruſty brown. Capſule perforated by the ſtem. BULLIARD.

On the ſtump of a fir, and on a decayed leaf of fir, in Coomb Grove near Bath. Mr. STACKHOUSE.

purple TRIC'HIA *denuda'ta*. Stem very ſhort. Capſule long egg-ſhaped, not perforated by the ſtem; cupped at the baſe.—

Bull. 502. 1.—*Mich.* 94. 1, *Clathroides.*—*Bolt.* 93. 2.—*Jacq. miſc.* i. 6.—*Batſch.* 177.—*Schæff.* 297.—*Hall. enum.* 1. 6, *at p.* 21, *repr. in hiſt.* 48. 6, *at* ii. *p.* 116. *(Not Schæff.* 297.)

STEM brown, very ſlender, about 1-20th of an inch high.

Woolly top 3-20ths of an inch high; colour of red brick, compoſed of woolly fibres, ſet with ſmall knobs, throwing out duſt when touched.

Duſt colour of vermillion; when very highly magnified appearing compoſed of egg-ſhaped ſubſtances.

—The ſtem ſupports the woolly ſubſtance, which reſembles a roll of carded wool, but does not extend through it. Wholly red, except the apex, which is browniſh. *Capſule* at firſt globular, oblong when older. JACQUIN.—*Stem* hardly a line in length, not continued through the capſule. *Capſule* ſcarlet or tawny red, egg-ſhaped when young, nearly cylindrical when old, its membrane at the baſe remaining entire. BOLTON.—The capſules in Mr. Bolton's figures not ſo long, nor does the colour in the young ſtate agree with our ſpecimens. Deſcription of Batſch at p. 265, very good.

Clathrus denudatus. LINN.

On rotten wood in damp places. Near Bungay. Mr. WOODW. —On the ſtump of a tree. Rookery, Edgbaſton. June—Oct.

reddiſh TRIC'HIA *ru'ſa*. Stem ſhort. Capſule globular, cut round; red.—

Bull. 368. 1.—*Schmid.* 24. i. *to* viii.

The place of this plant in a ſyſtem is not eaſily determined. The capſule opens horizontally about its middle, like a ſnuff box, or like the S. Veſſ. of the Anagallis; the upper and under lid remaining entire;

entire; therefore it does not agree with the genus Lycoperdon which opens only at the top, nor does it well accord with the Trichia, the capsules of which stretch so as to let the seeds escape between the fibres, though in some species the lower part suffers no such separation of its fibres, more nearly resembling the plant in question.

Lycoperdon rufum. DICKS. 25. 1.

On rotten wood, July—Aug.

TRIC'HIA *ful'va*. Stem very short, smooth. Capsule globular, wool tawny.— *brown*

Bolt. 93. 3.—*Bull.* 387. 2.—*Hall. enum.* 1. 4, *at p.* 21, *repr. in hist.* 48. 4, *at* ii. *p.* 116.

Stem white. *Capsule* varying in colour from scarlet to yellow brown; when its texture opens, the lower part remains entire on the stem. The whole plant not 1-10th of an inch in height.

Sphærocarpus Trichioides. BULL.—Clathrus fulvus. HUDS.—Mucor fulvus. LINN.

On rotten wood. [About Bungay. Mr. WOODWARD.] May—Oct.

TRIC'HIA *fla'va*. Capsule on a stem, whitish. Wool yellow.— *yellow*

Bull. 407. 2.—*Bolt.* 93. 4.—*Hall. enum.* 1. 3 *and* 3, *at p.* 21; *repr. in hist.* 48. iii. *at p.* 116.

This has been supposed to be the Mucor sphærocephalus of LINN. which it may be, as Mr. Bolton remarks that the capsule turns black after the discharge of the seeds.

Clathrus flavus. HUDS. 631.

On rotten wood, June—Oct.

TRIC'HIA *oliva'cea*. Stem and capsule woolly, olive-coloured. BOLT. *olive*

Bolt. 94. 2.

On putrid weeds when thrown on a heap to rot for manure.

TRIC'HIA *furfura'cea*. Stem thread-shaped, green. Capsule globular, mealy.— *branny*

Batsch. 178.

Clathrus virescens. HUDS. 632.—Mucor furfuraceus. LINN.

On the ground in the shade on the sides of roads and ditches, and on rotten wood. May—Oct.

TRIC'HIA

grey TRIC'HIA *globulif'era.* Stem thickeſt downwards. Capſule globular, aſh-coloured.—

Bull. 484. 3.—*Bolt.* 94. 1.

Clathrus ſphærocephalus. BOLTON.—Sphærocarp. globuliferus, BULLIARD.

In the cracks of old dry wood, at all ſeaſons. BOLTON.

black TRIC'HIA *recuti'ta.* Capſule on a ſtem, globular. Wool black.

Batſch. 232.—*Bull.* 417. 3 ?

Head roundiſh, after burſting the lower half remains white and membranaceous, and upon it reſts an egg-ſhaped maſs of a cotton-like texture. LINN. ſuec. n. 1264.—The figures of M. Bulliard are rather egg-ſhaped than globular, and taper downwards ſo as to form a ſtem, but in the plants, now before me, the ſtem is thinneſt upwards, and there is a hollow dot at the top of each unopened head. In an elegant drawing, by Mr. Knapp, which accompanied his ſpecimens, the ſtem is equally diſtinct as in the figures of Batſch.

Cl. ater. Hudſ. 631.—Cl. recutitus. LINN.—Mucor cancellatus, BATSCH.

On rotten wood. May—Oct.

[In a wood in Bucks, Nov. Dec. Mr. KNAPP.]

** STEM-LESS.

cylindrical TRIC'HIA *fragifor'mis.* Stemleſs; in cluſters. Capſules cylindrical, tawny red.—

Batſch. 172.

About 1-8th of an inch high, and ½ as much in diameter, ſitting in cluſters upon a common membranaceous baſe of the ſame colour; opening at the top and diſcharging its ſeeds, which, together with the fibres which connect them, are of a deep tawny ſaffron colour. BATSCH.—Roſe red when young. BULLIARD.

Lycoperdon veſparium. BATSCH. — Sphærocarpus fragiformis BULLIARD.

Mr. Relhan informs me that he has found this plant in Madingley Wood, and Wood Ditton, in Cambridgeſhire.

On rotten wood, and decaying trunks of trees. Spring. [On the ſtump of an hazle, growing in conſiderable quantities; Powick near Worceſter, Mr. STACKHOUSE.]

turbinated TRIC'HIA *turbina'ta.* Stemleſs; turban-ſhaped. Wool yellowiſh. (HUDS. 632. 8.)

Mich.

Mich. 94. 2, *Clathroides, cop. in Gled.* 4. *Stemonit. f.* 1, 3, 7, *and* 4.—*Hall. enum.* 1. 7, *at p.* 21, *repr. in hiſt.* 48. 7, *at* iii. *p.* 116.—*Bolt.* 94. 3.—*Fl. dan.* 655. 1.—*Scop. ann.* iv. 2. 11. —*Batſch* 173.—*Bull.* 417. 4?

Lycoperdon luteum. JACQ. in ſyſt. veg. p. 982. RELH. n. 1103. —L. epiphyllum. LIGHTF. 1069.

On rotten wood. [Near Bungay, Mr. WOODWARD.]

Auguſt—April.

1334. MU'COR. Mould.

FUNGUS conſiſting of veſicles on fruit-ſtalks, containing a number of *Seeds* fixed to croſs-ſhaped *Receptacles*.

Eſs. CHAR. Seeds naked, or in tranſparent Capſules at the end of the ſtem.

MU'COR *Muce'do.* Stem undivided, ſupporting a ſingle globular Capſule.— *cotton*

Bull. 480. 2.—*Fl. dan.* 467. 4.—*Bolt.* 132. 1.—*Mich.* 95. 1, *Mucor, cop. in Gled.* 6, *Mucor f.* 3. *a. f. f.* 2. *a.*—*Sterb.* 31, *ſtill more highly magnified.*

On putrid broad planks and other ſubſtances. Jan.—Dec.

MU'COR *glau'cus.* Stem ſupporting a head. Heads roundiſh, incorporated.— *greeniſh*

Fl. dan. 777. 2.—*Mich.* 91. 1, *Aſpergillus; f. D. cop. in Gled.* 1, *Byſſus* 1. *row* 3. *f.* 4.—*Fl. dan.* 840. 3, *may be the ſame plant.*

On rotten apples, melons, and ſuch like ſubſtances. Jan.—Dec.

MU'COR *ro'ridus.* Stem hair-like. Head ſpherical, like a dew-drop, with a black dot at the top. RAY ſyn. 13, n. 13. *dewy*

Bull. 480. 1.—*Bolt.* 132. 4.—*Pluk.* 116. 7, *cop. in Pet. gaz.* 105. 14.

Agaricus tenellus, HUDS. 621, according to Relhan.

On horſe dung. Aug.—Sept.

MU'COR *urceola'tus.* Soon fading. Stem above bellying, tranſparent, like a dew drop. Head roundiſh, elaſtic, black, DICKS. 25. RELH. n. 1062. *pitcher-ſhap'd*

Bolt. 133. 1.—*Dickſ.* 3. 6.

Stem

Stem yellowiſh, changing to a pellucid watery blue, bellying upwards. *Head* ſpherical but depreſſed, black, ſhining, when ripe thrown off with an elaſtic force. DICKSON. — This plant, having the property of ejecting the ſeed-veſſel in the ſame manner that the Lycoperdon Carpobolus does, and the head, which is blackiſh grey, appearing to be replete with ſeeds like that, ſhould the former be made a diſtinct genus, this might aſſociate with it. The ſtructure of it is clearly a membrane ſurrounding and incloſing the capſule in form of a round ball at the top of the ſtem, which, when ripe, is exploded to ſome diſtance. This membrane is not fugacious like the Mucors; a ſpecimen, now 6 or 7 years old, ſtill ſhews the remains of the collapſed membrane, though the capſules are fallen into powder and gone. *Stem*, after the exploſion of the head loſes its bellying appearance, becomes cylindrical and crooked, in which ſtate it will remain for years, if kept in a dry place. Mr. WOODWARD.

On horſe dung; to be found early in a morning. Aug.

black MU'COR *Em'bolus*. Stem black, briſtle-ſhaped, with brown woolly hair.—

Hall. enum. 1. 1, *at p.* 21, *repr. in hiſt.* 48. 1, *at p.* 116.

Rotten wood. Jan.—Dec.

fingered MU'COR *ceſpito'ſus*. Stem branching. Fructifications finger-like.—

Bull. 504. 11.—*Bolt.* 132. 2.—*Mich.* 91. 4, *Aſpergillus*; *cop. in Gled.* 1. *Byſſus row* 3. *f.* 2.

On rotten vegetables in woods.

radiating MU'COR *cruſta'ceus*. Stem undivided. Fructifications radiating, terminating.—

VAR. 1. Rays of fructifications few.

Bull. 504. 11.—*Mich.* 91. 3, *Aſpergillus.*

Height 1 to 2 10ths of an inch. Fructifications beaded, iſſuing in rows like rays from the top of the ſtem.

VAR. 2. Rays of fructifications crowded.

Bull. 504. 10.—*Mich.* 91. 2. *Aſpergillus.*

On rotten vegetables, and corrupted food, in moiſt ſhady places. Jan.—Dec.

grape MU'COR *bo'trytis*. Stem bearing Fructifications in bunches. (BOLT.)

Bolt.

Bolt. 132. 3.—*Bull.* 504. 7.—*Fl. dan.* 777. 1.—*Mich.* 91. 4. *Botrytis, imit. in Gled.* 1. *Byſſus, row* 3. *f.* 1.

Height from 1 to 2-10ths of an inch. Fructifications like bunches of grapes,

On a decaying plant of Boletus verſicolor.

MU'COR *chryſoſper'mus.* (BULL.)—Extremely fine, golden yellow, conſiſting of ſtems ſupporting yellow ſeeds, ſingly or in cluſters. *golden*

Bull. 476. 4, *and* 504. 1.

Covering the whole ſurface of the plants on which they grow, and ſtaining the fingers yellow.

I have repeatedly found it, but always upon Boleti which grew in ſhady places; generally on the Boletus pellucidus. Aug.—Sept.

It has the ſame property of repelling wet as has been obſerved in the ſeeds of the Lycopordium. A ſpecimen now before me is not wetted, though it has been immerſed in a fluid for a year.

MU'COR *argen'teus.* Spreading, white, conſiſting of extremely fine woolly filaments ſupporting ſeeds.— *white*

This appears upon ſome of the ſmaller ſtipitated Boleti, covering the whole of the pileus and upper part of the ſtem. It is more durable than the M. Chryſoſpermus.

Under the large clump of beeches, Edgbaſton Park. Aug. Sept.

The Boleti on which either this or the M. chryſoſpermus are found, are always in a very tender half rotten ſtate.

MU'COR *Lichenoi'des.* Permanent. Stem awl-ſhaped; black. Capſule lentil-ſhaped, aſh-coloured.— *grey-headed*

Dill. 14. 3.—*Hall. hiſt.* 48. 2, *at* iii. *p.* 116, *is alſo referred to by Mr. Hudſon, but that is a Trichia.*

The *baſis* black, pitchy, elevated. *Head* hemiſpherical above, underneath plano-concave, with a round edge, reſembling the crab's eyes of the apothecaries, aſh-coloured, of the ſize of poppy ſeed. LINN. ſuec. n. 1287.—When the fructification of this plant is a little better underſtood it muſt be removed from its preſent ſituation, the permanent woody texture being ſo unlike the tender and fugacious Mucors. I was favoured with ſpecimens by Mr. Knapp, who remarks that he has never ſeen it grey, but always black.

Clathrus cinereus. HUDS. 631.

On rotten wood. Jan.—Dec.

yellowish MU'COR *lepro'sus*, Briſtle-ſhaped. Seeds at the root.—

Mich. 91. 5, *Aſpergillus.*

Caverns and arched cellars. Sept.—April.

ſeſſile MU'COR *Erys'iphe*, White. Heads brown, ſitting.—

On decaying leaves. Aug. Sept.

ADDI.

ADDITIONS

TO THE

TWO FIRST VOLUMES.

ADDITIONS,

F484

ADDITIONS, &c.

Page 12. VERONICA *anagallis*. *Fl. dan.* 903.—*Ger.* &c.

— 13. VERONICA *montana*. After *Curt.* add, *Col. ecphr.* 288, *cop. in Pet.* 51. 4, *and Park.* 589. 3.

Dele *Pet.* 51. 4.

— 15. VERONICA *triphyllos*. *J. B.* iii. 368. 1, *a young ſpecimen*. Mr. WOODWARD.

Stem ſometimes ſimple. *Branches* from the bottom of the ſtem or near it, and riſing to the ſame height as the ſtem. *Leafits* in threes and fives. *Root-leaves* ſimple, rarely found, well repreſented in J. B.'s figure. Mr. WOODWARD.

— 15. VERONICA *verna*. *Leaves* in one ſpecimen gathered near Bury, ſpear-ſhaped, toothed, 7 lines long, though the whole plant only 2 inches high. Mr. WOODWARD. —*Fl. dan. Leaves never ſo acutely pointed, nor have I ſeen them ſo thinly ſet on the ſtem. Capſules repreſented as lopped inſtead of deeply notched.* Mr. WOODWARD.

— 34. NARCISSUS *poeticus*. *Honey-cup* very ſhort, yellow. *Petals* large, whitiſh. RAY.

Primroſe. Peerleſs.

— 50. SCIRPUS *maritimus* ε *Fl. dan.* 937.—*Ger.* &c.

— 62. PHLEUM *arenarium*. *Fl. dan.* 915.—Park. &c.

— 72. AGROSTIS *ſtoloniſera, capillaris ſylv. alba pumila*, LIGHTF. probably Hudſ. right in making theſe all varieties. Mr. WOODWARD.

— 79. AIRA *caneſcens*. *Panicle* ſcarcely ever coming out of the ſheath. No plant alters its appearance more completely when cultivated than this, growing much larger, quite upright, and loſing entirely its grey colour. Mr. WOODWARD.

— 85. POA *aquatica*. *Fl. dan.* 920.—H. ox. &c.

— 86. POA *trivialis*. Line 15, eraſe panicle and the reſt of the line and all the next. Mr. WOODWARD.

— 87. POA *pratenſis*. Mr. Curtis's ſpecific character of this and *P. trivialis* invariably true. Mr. C. refers to the ſame ſynonyms of Ray, &c. under each, becauſe they had confounded the 2 ſpecies. Mr. WOODWARD.

Page

Page 88. POA *maritima*. If the Poa retroflexa of Curtis is not a variety of *P. maritima*, it is very nearly allied to it. Mr. WOODWARD.

Very common at Yarmouth and on the coaſt. Mr. WOODWARD.

—— 102. FESTUCA *pinnata* α HUDS.—My ſpecimens ſlightly pubeſcent. *Spikes* ſometimes on very ſhort fruit-ſtalks. *Empal.* valves hairy at the edge, marked with 7 ſtrong ribs. *Bloſs.* outer valves hairy at the edge, and marked with 5 ſtrong ribs. Mr. WOODWARD.

FESTUCA *pinnata* β HUDS.—My ſpecimens ſlightly pubeſcent. *Spikes* abſolutely ſitting. *Empal.* and *Bloſs.* as in α, but the hairs and ribs ſtronger. Mr. WOODWARD.

—— 118. ARUNDO *arenaria*. *Fl. dan.* 917.—Hiſt. ox. &c.

—— 123. ROTTBOLLIA *incurvata*. *Fl. dan.* 938.—H. ox. &c.

—— 128. TRITICUM *junceum*. *Fl. dan.* 916.—C. B. &c.

—— 147. SANGUISORBA *officinalis*. [Extremely common in limeſtone paſtures in the North. On the Eaſt ſide of the iſland I have not met with it farther to the South Eaſt than Ripton, Huntingdonſhire. Mr. WOODWARD.]

—— 157. GALIUM *Aparine*. (References add.) *Walc.*

—— 174. POTAMOGETON *criſpum*. After *Curt.* inſert *Fl. dan.* 927.

—— 189. LITHOSPERMUM *officinale*. [Common in woods. Mr. WOODWARD.]

—— 222. LONICERA *Periclymenum*. After *Curt.* inſert *Fl. dan.* 908.

—— 225. VERBASCUM *Lychnitis* α and β. Mr. Curtis, who cultivated them ſome years in his garden, declared he could not find any ſpecific difference. I am apt to think the Verbaſcums run eaſily into hybrids, ſome plants having flowered near my garden this year which ſeem to be between *V. nigrum* and *pulverulentum*, and this circumſtance might occaſion the difficulty Mr. C. found in pointing out ſpecific differences. Our *pulverulentum* varies extremely, and in ſome ſhady ſituations this wet ſummer had loſt almoſt all its powdery appearance. Perhaps *oblong wedge-ſhaped* may be proper for the root-leaves, but they vary from that to oval ſpear-ſhaped and ſpear-ſhaped, and ſometimes have the margins waved, though always ſcolloped, and always with ſhort leaf-ſtalks. The *middle leaves* ſitting, ſometimes with a tendency to embrace the ſtem, which makes them heart-

ſhaped

ſhaped at the baſe. They are oval ſpear-ſhaped, or rather ſhortly pointed. The upper narrow and pointed. I believe it will be beſt on Curtis's authority to make them varieties. Mr. WOODWARD.

Page 257. BETA *maritima*. [Yarmouth, and at Wells on the Norfolk Coaſt. Mr. WOODWARD.]

— 272. CAUCALIS *Anthriſcus*. After *Jacq.* inſert *Fl. dan.* 919.

— 281. SELINUM *paluſtre*. *H. ox. leafits too large and too few, and the ſtem ſmooth.—Lob. leaves well repreſented, but not the rundle, but it has evidently numerous ſtems, though the root is with many cleſts, and the ſtem ſcored.—Bauh. pr. the beſt I have ſeen were the root not ſingle, anſwering in every other particular.* Mr. WOODWARD.

— 291. SIUM *latifolium*. [In the pool in Nottingham Park. Dr. ARNOLD.]

— 306. TUSSILAGO *hybrida*. [At Diſhley Mill, Leiceſterſhire. Dr. ARNOLD.]

— 307. CHÆROPHYLLUM *temulum*. After *Jacq.* inſert *Fl. dan.* 918.

— 314. PIMPINELLA *magna*. [In Holling Hall Wood, Leiceſterſhire. Dr. ARNOLD.]

— 341. NARCISSUS *poeticus*. In ſome cloſes at Bellow Hill, near Whitechurch, Cheſhire. Mr. VERNON *in Blackſt.* 58.—In ſeveral places near Harefield. *Blackſt. ib.*

— 366. BERBERIS *vulgaris*. *Fl. dan.* 904.—Mill, &c.

Par. 3, line 10, after ST. add, If a bee in purſuit of honey touch the threads the tips approach the ſummit and diſcharge their duſt with an exploſion. The ſame may be done with a pin. *Baal hortul. monſp. in Linn. ſuec. n.* 311.

— 376. RUMEX *Acetoſella*. References. *Curt.* v. 52.—Blackw. &c.

— 390. EPILOBIUM *montanum*. After *Curt.* inſert *Fl. dan.* 922.

— 413. POLYGONUM *aviculare*. The ſtubbles in Sweden are empurpled with this plant. LINN.

— 433. SAXIFRAGA *autumnalis*. *Cord. a Schmid. the coloured plate*, 4.—*Cluſ.* &c.

— 436. SCLERANTHUS *annuus*. After *Lonic.* i. 169. 1.—inſert *Dod.* 115. 1, *repr. in* Ger. &c.

— 445. CUCUBALUS *Behen*. *Fl. dan.* 914.—J. B. &c.

— 460. ARENARIA *verna* of Hudſ. Derbyſhire, &c. plant is *A. laricifolia* of Herb. Linn. but as I have never ſeen what Hudſ. calls laricifolia. I don't know what ſpecies that is. Mr. WOODWARD.

Page 478. CERASTIUM *alpinum*. *Lightf.* 10. 2, *at p.* 242, *as evident from the figure of the capſule.* RETZ. *obſ.* iii. 32. n. 54.

—— 509. PRUNUS *ſpinoſa*. *Fl. dan.* 926.—Sheldr. &c.

—— 532. POTENTILLA *argentea*. *Munting*. Leaves 7, 5, and 3, well expreſſed, with the terminal without lateral ſerratures, the bloſſom and empalement in every flower with 4 clefts. A very good figure, except that the plant is repreſented upright inſtead of trailing. Mr. WOODW.

—— 552. PAPAVER *dubium*. After *Curt.* inſert *Fl. dan.* 902.

—— 589. AJUGA *reptans*. After *Curt.* add, *Fl. dan.* 925.

—— 569. THALICTRUM *flavum*. *Fl. dan.* 939.—Moriſ. &c.

—— 571. RANUNCULUS *Flammula*. References (add) *Walc.* 5.

—— 603. GLECHOMA *hederacea* γ Bloſſoms fleſh coloured. BLACKST. 33.

Near Eynſham Abbey, Oxfordſhire. DILL. *in Blackſt.* Apr.

—— 608. GALEOPSIS *Tetrahit* β After *Riv.* add, *Fl. dan.* 929.

—— 620. CLINOPODIUM *vulgare*. *Fl. dan.* 903.—Cluſ. &c.

—— 631. PRUNELLA *vulgaris*. After *Ludw.* inſert *Fl. dan.* 910.

—— 638. MELAMPYRUM *arvenſe*. *Fl. dan.* 911.—Riv. &c.

—— 646. ANTIRRHINUM *ſpurium*. After *Curt.* inſert *Fl. dan.* 913.

—— 650. ANTIRRHINUM *Orontium*. After *Curt.* inſert *Fl. dan.* 941.

—— 659. Line 27, read thus:—*upper lip* roundiſh, cloven; the *lower lip* broad, cloven in 3, the middle ſegment largeſt, and with a

—— 671. LEPIDIUM *didymum*. Not *L. didymum* of Linn. Mr. WOODWARD.

—— 692. SISYMBRIUM *terreſtre*. After *Curt.* inſert *Fl. dan.* 931.

—— 696. ERYSIMUM *Alliaria*. After *Curt.* inſert *Fl. dan.* 935.

—— 697. ERYSIMUM *cheiranthoides*. After *Jacq.* inſert *Fl. dan.* 923, *from a very luxuriant ſpecimen.*

—— 700. HESPERIS *inodora*. After *Jacq.* inſert *Fl. dan.* 924, and after *Rupp.* inſert *Fl. dan.* 921.

—— 702. ARABIS *ſtricta*. After *Crantz* (add) *Scop.* 40, at ii. p. 27.

Arabis arenoſa. Scop. n. 837.

—— 732. GERANIUM *diſſectum*. *Fl. dan.* 936.—Vaill. &c.

—— 750. MALVA *moſchata*. After Curt. inſert *Fl. dan.* 905.

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Page 751. FUMARIA *officinalis.* After *Curt.* add, *Fl. dan.* 940.
—— 790. TRIFOLIUM *Melilotus officinalis. Fl. dan.* 934.—Gmel. &c.
—— 827. TRAGOPOGON *pratenſe.* After *Ludw.* inſert *Fl. dan.* 906.
—— 849. HIERACIUM *paludoſum. Fl. dan.* 928.—Ger. &c.
—— 862. CICHORIUM *Intybus.* After *Curt.* inſert *Fl. dan.* 907.
—— 879. ONOPORDUM *Acanthium. Fl. dan.* 909.—Fuchſ. &c.
—— 911. SENECIO *Jacobæa. Fl. dan.* 944.—Matth. &c.
—— 976. ORCHIS *maculata. Fl. dan.* 933.—Hall. &c.
—— 983. OPHRYS *Nidus avis.* After *Fl. dan.* (add) *Tourn.* 250. 3, *root and parts of fructification.*
—— 1015. CHARA *vulgaris. Hedw. theor.* 32 *and* 33. *C. B. &c.*
—— 1022. TYPHA *anguſtifolia.* After *Fl. dan.* (add) *Tourn.* 301.
—— 1023. SPARGANIUM *erectum.* References — after *H. ox.* (add) *Tourn.* 302, *a branch.*
—— 1024. SPARGANIUM *ſimplex.* HUDS. After *Curt.* inſert *Fl. dan.* 932.

ADDITIONS

TO THE

THIRD VOLUME.

ADDITIONS, &c.

Page 52. After line 6 (add) *Leaves* ſpear-ſhaped, with winged clefts, from 4 to 5 inches long, ½ inch broad, leaf-ſtalk naked, ¼ of the length of the leaf. Segments alternate, very entire, ſemi-oval, green above, thickly covered with brown ſcales underneath. Mr. GOUGH.

—— 52. After line 9, (add) On old walls cemented with mortar containing a portion of clay, and in a ſimilar ſoil in the fiſſures of limeſtone, on the higheſt part of Kendall fell. Mr. GOUGH.

—— 64. After line 8, (add) *Jacq. miſc.* ii. 7.

—— 68. At the bottom, after, alternate. DILL. (add) Fruit-ſtalk generally with 2 equal ſpikes, frequently with 1, and ſometimes with 3, which are unequal. Mr. GOUGH.

—— 69. After line 7, (add) The Seeds flaſh when thrown into a flame, and it is ſaid are uſed in Theatres to imitate lightning. They are with difficulty made wet, and if ſcattered upon a baſon of water you may dip your hand to the bottom of the baſon without wetting it.

—— 75. After line 21, add, DILL.

—— 97. In the margin, inſtead of *heath*, read *crowded*.

—— 103. In the margin, inſtead of *dwarf*, read, *little*.

—— 106. In the margin, line 3, for *ſtarry*, read, *ſtellated*.

—— 141. Line 1, dele Jungermannia.

—— 143. Line 1, for MUSCI, write, ALGÆ.

—— 147. Line 1, for MUSCI, write, ALGÆ.

—— 151. Line 1, for MUSCI, write, ALGÆ.

—— 157. TARGIONIA *ſphærocarpus*. Very common on our clover fields in Autumn, on ſandy loams along with Riccia glauca, the firſt year of the clover. Mr. WOODW.

—— 165. In the margin, for *brown*, write, *Byſſus*.

—— 165. In the margin, for *bluiſh*, write, *blue and black*.
Line 27, before *Willd.* 7. 20, inſert, *not*.

—— 168. In the margin, for *wall*, write *lentil*.

—— 175. In the margin, for *yellow*, write *yellowiſh*.

Page

Page 177. In the margin, for *white*, write, *cream-coloured.*
—— 177. In the margin, for *bluiſh*, write, *aſh-coloured.*
—— 179. In the margin, for *pale*, write *pallid.*
—— 201. In the margin, for *fringed*, write, *Tremella.*
—— 207. Line 31, for *Bolt.* 131. 6, read, *Bolt.* 131. *b.*
—— 228. Line 2, before *Mich.* (inſert) *Bull.* 272.
—— 239. FUCUS *tamariſcifolius.* Major Velley deſires, that what ſtands there in his name may be cancelled, and the following deſcription ſubſtituted in its place.

The baſe deſtitute of fibres and flat on the under ſurface, which by means of a gluten peculiar to ſea plants, is ſtrongly attached to the ſubmarine rocks. It throws out 3 or 4 tough cylindrical ſtems, of the ſize of a quill; abounding with many knotty ſhoots, ſome are ſimple, not more than an inch in length, with very ſhort leaves cloſely ſet into the ſtem; others are more lengthened and terminate with thick cluſters of imbricated branches ſimilar to themſelves. Not unfrequently linear leaves may be obſerved, extending to an inch or more, and producing others which terminate in a forked direction. The plant is much branched, from 4 to 6 or 7 inches in height, and more in width, the ſmaller branches are numerous, and proceed indiſcriminately from the principal ſtems, and are nearly tiled, at leaſt towards the ſummits with ſhort awl-ſhaped leaves; many of theſe are ſwollen at their baſe into round veſicles, and theſe ſmall protuberances appear ſometimes bare on the branches, as if the ſummits of the leaves had fallen off. Some of the upper branches have a remarkable appearance, ſomewhat reſembling the ſmall ſhields on ſome Lichens, which have hollow contracted diſcs and ſmooth prominent margins. This Fucus is found on ſubmarine rocks at very low water, and is readily diſcovered by the bright glaucous tints which are reflected from it. It dries black, but if well preſerved will retain on its upper branches, a mixture of muddy green colour, from whence thoſe beautiful tints originate in its natural ſtate.

—— 246. FUCUS *ciliatus.* In the references, after *Gmel. fuc.* 21. 2, eraſe all to— *Tourn.*
—— 254. Line the laſt, *dele* and read *Pl.* 18.
FUCUS *defractus.* Read ULVA *defracta.* (Pl. 18.) The plant which I had named Fucus defractus, I think upon more mature deliberation is more properly an Ulva, as from its viſcid elaſtic texture, and the tubercu-

lated

lated appearances on every part, it ſhould ſeem, according to the preſent imperfect definitions of theſe different genera, to belong to the genus ULVA. It is moreover neceſſary to remark, that although I frequently found it in the month of June, 1790, I have not been able to find it ſince, and poſſibly from not being upon the coaſt till later in the year; which circumſtance prevented me from meeting with the Fucus elminthoides laſt Sept. there not being the ſmalleſt appearance of it at that late ſeaſon. Major VELLEY.

—— 280. After the word plant in the ſixth line, eraſe * and place †. Do the ſame to the note at the bottom of the ſame page.

—— 284. After the Eſſ. Char. add,

§ 1. SOLID and DECURRENT.

(To follow Ag. integer, page 317.)

AGA'RICUS *punic'eus*. Gills white, 4 in a ſet; Pileus pinky, convex. Stem white.— *light-red*

GILLS fixed, white, rather numerous, 4 in a ſet.

PILEUS convex, dull pinky red, clothy, ſometimes a little boſſed; nearly flat when fully expanded, ¼ to ¾ of an inch over.

STEM ſolid, white, often crooked, about 1 inch high, and thick as a crow quill.

Graſs plats, adjoining to the houſe of Thomas Pearſon, Eſq. at Tettenhall, Staffordſhire. 28th Auguſt, 1792.

Page 333. Line 4, after 364. A. (add) ſee our Pl. 19.

(To follow Ag. partitus, page 357.)

AGA'RICUS *octogo'nus*. Gills pale brown, 4 in a ſet, but ſome in pairs and much broader. Pileus brown, convex, octagonal.— *octagon*

GILLS fixed, 4 in a ſet, but irregular, pale watery brown, white at the edges. Beſides the above, there are 8 pair of large Gills, thrice as broad as the common large ones, whoſe edges approach and ſeem united in pairs, but as their attachment to the pileus is at ſome diſtance from each other, and the lower edges incline ſo as to come in contact, if not to grow to each other, there is neceſſarily a conſiderable cavity included between them. This cavity is ſometimes empty, but ſometimes incloſes a Gill of the common ſize. The external appearance of theſe pairs of large Gills is not unlike a large ſeed of an orange.

PILEUS pale watery brown, convex, 5-8ths of an inch over, the edge formed into as many projecting angles as there are pairs of the large Gills deſcribed above.

STEM

STEM watery brown, with a ſmall hollow, 1½ inch high, thinner than a crow quill.

Edgbaſton, by the little Pool dam. 24th Auguſt.

AGARICUS *fuſco-flavus.* (See page 359.)

VAR. 1. Pileus regularly convex. Stem ſhort, thin, with a ſlender hollow.

GILLS fixed, ochrey brown, 4 in a ſet, moderately numerous.

PILEUS regularly convex, pale buff, darker in the center, 1½ to 2 inches over.

STEM hollow, browniſh, cylindrical, ſplitting, 1½ inch high, thick as a crow quill; the hollow very fine.

On a flower bed in the garden, Edgbaſton. 23d Aug. 1792.

Page 402. Line 3, for *bet'ulinus* (read) *betuli'nus.*

BOLETUS *ſulphureus.* (See p. 424.)

VAR. 2. Pileus white.

TUBES yellow, not 1-20th of an inch in length, *Pores* yellow, irregular.

PILEUS white, covered with a very fine kind of woolly knap; marked with 3 or 4 concentric depreſſed lines or furrows; 4 or 5 inches over; thin and without tubes at the edge.

On an oak poſt, at Soho, about a foot from the ground. Aug.

Page 435. Before PEZIZA (add) 1331.

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THIRD VOLUME.

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TO

BOOKS,

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TO THE BINDER.

Place Plate XIX. to face the Introduction.

Pl. xiii

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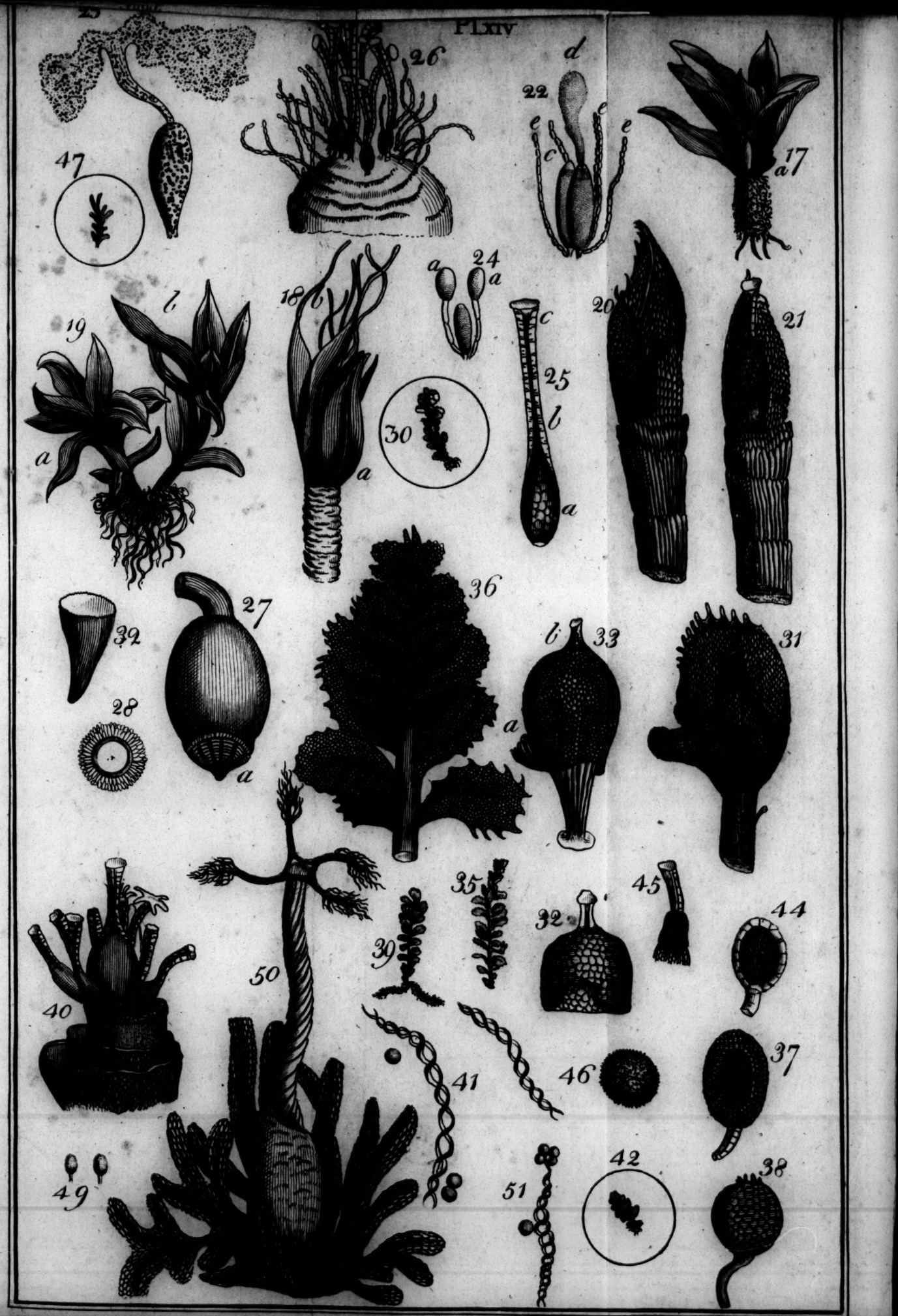
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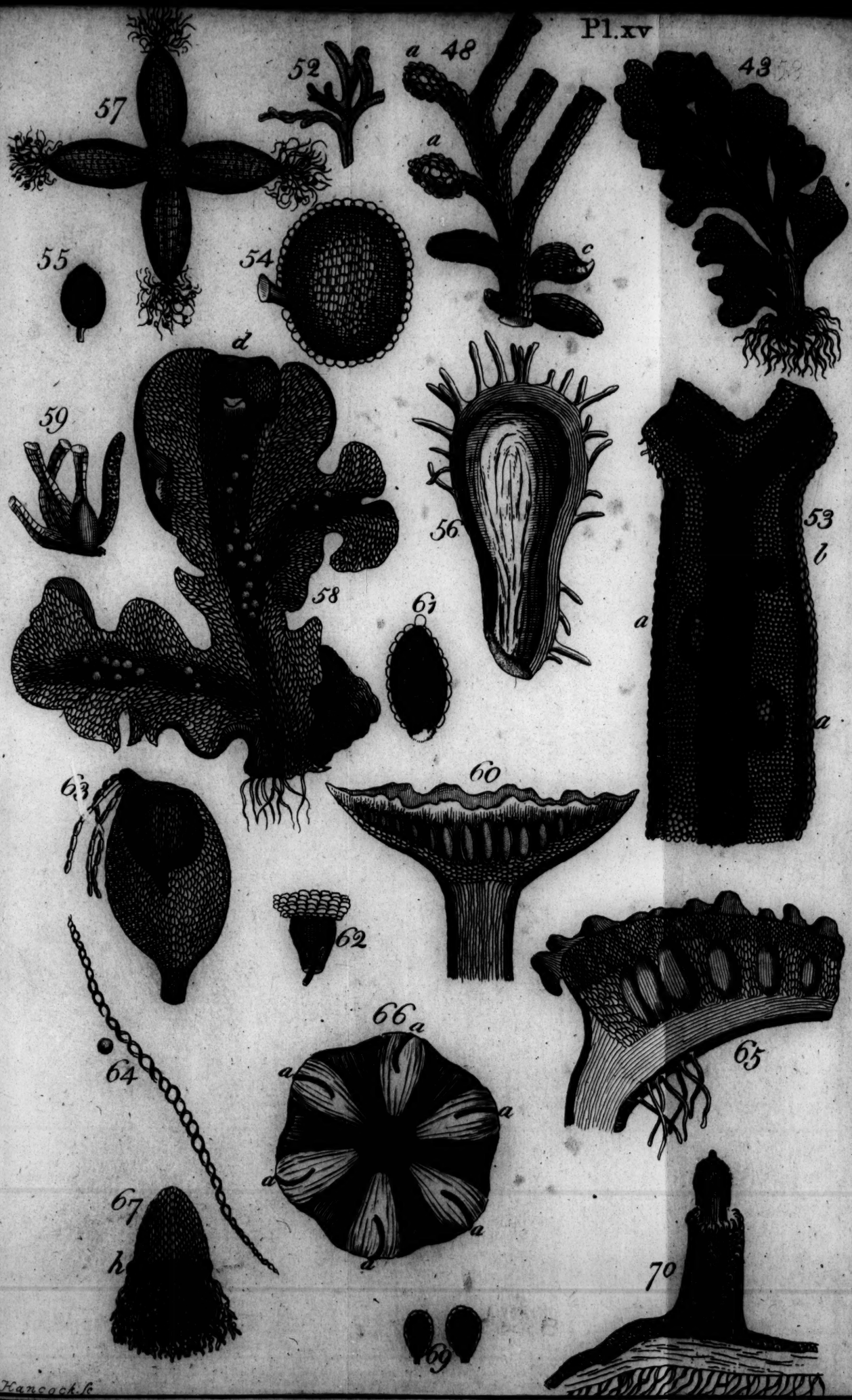
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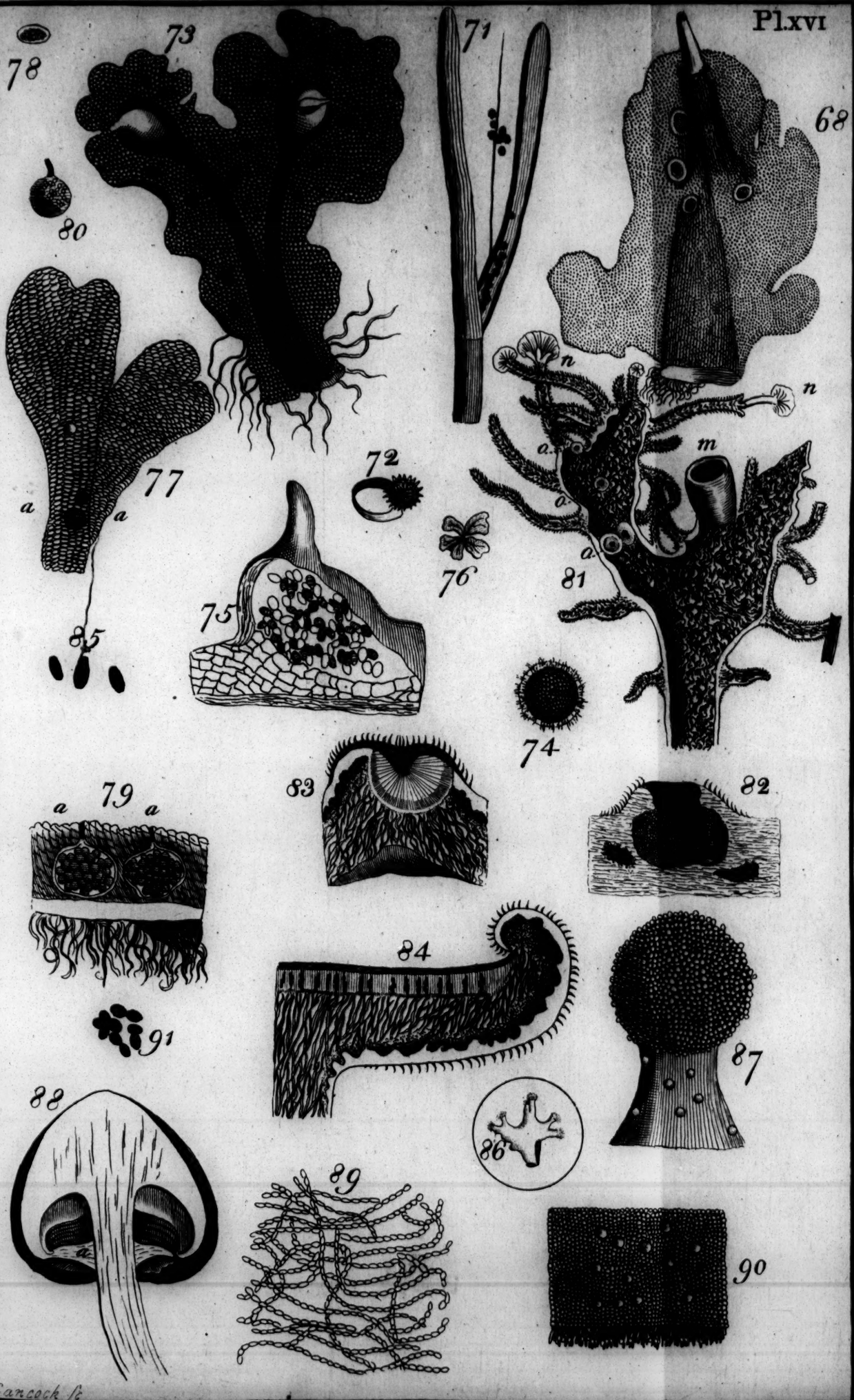
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